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OF
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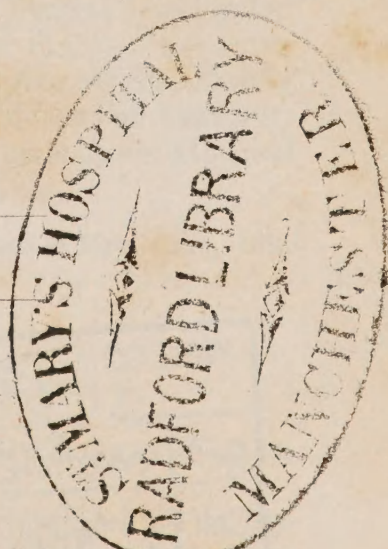
EXHIBITING
A COMPREHENSIVE VIEW
OF THE
LATEST DISCOVERIES
IN
MEDICINE, SURGERY, AND THE COLLATERAL
SCIENCES.

VOL. XV.

DUBLIN:

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In consequence of some arrangements relating to the delivery of this Journal in London, we have been obliged to postpone the printing of the Report of the Eighth Meeting of the Pathological Society, which would have completed the Reports of the Meetings held at the Richmond Hospital School of Medicine. It will appear in its proper place in our next Number.

We have great pleasure in announcing, that the Reports of the Obstetrical Society of Dublin will be published in this Journal.

We beg to acknowledge the receipt of numerous works for review, notices of which shall appear on the first opportunity.



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ERRATA IN No. XLIII.

Page 173, Note, line 1, *after the word master, read mind.*
 — 174, line 18, *for licentiate read fellow.*

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NOTICE TO CORRESPONDENTS.

We beg to acknowledge the receipt of the past numbers of the Medical Examiner, edited by Drs. Biddle, Clymer, and Geshard, of Philadelphia.

Dr. Sharkey's communication on the Contagion of Cholera will appear in the September number.

Reviews of Dr. Holland's Medical Notes and Reflections, and of Mr. Pettigrew's unique and interesting work, the Medical Portrait Gallery, are in course of preparation.

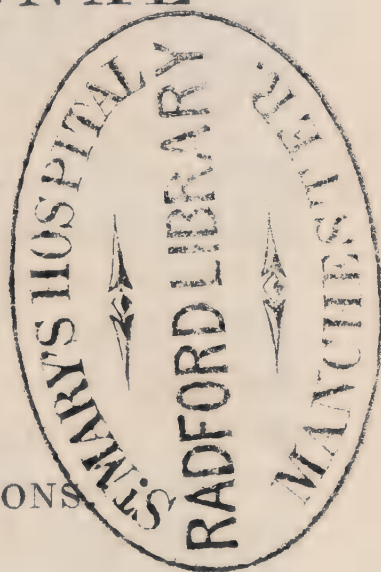
The Gazette Medicale has been duly received.

THE
DUBLIN JOURNAL

OF
MEDICAL SCIENCE,

1 MARCH, 1839.

PART I.
ORIGINAL COMMUNICATIONS.



ART. I.—*Researches on the State of the Heart, and the Use of Wine in Typhous Fever.* BY WILLIAM STOKES, M. D., M.R.I.A., Honorary Fellow of the King and Queen's College of Physicians, &c.

BEFORE I enter on the investigations which form the basis of this paper, I may premise, that I consider typhous fever as an essential disease, not symptomatic of any known local lesion. To British readers this may appear unnecessary, as it is only the expression of opinions entertained by our most learned and experienced physicians. But as on the Continent a different doctrine is held by some eminent pathologists, and as I have found it necessary to state to many continental physicians who have honoured the Meath Hospital with their presence, that we were opposed to the doctrine of localization, I trust that the expression of these opinions will not be considered unnecessary or egotistical by my readers at home.

There can be no doubt that the typhus of Great Britain and Ireland is a disease of the whole system, not symptomatic of any particular local lesion ; shewing on the one hand a tendency to a favourable termination, after a period which varies indefinitely ; and on the other, being capable of destroying life *with* various lesions, or *without* any appreciable change in the solids. It is a disease on which anatomy sheds but a negative light, not telling us what it is, but rather what it is not.

With respect to the organic lesions, I consider them as much secondary to the general disease, as the pustule in small-pox is to the disease of variola. Their not unfrequent absence in the worst cases of the disease proves that they are not the cause of typhus, while in cases where they do occur, we observe a signal want of proportion between their amount, and the severity of the symptoms. They are in the fullest sense inconstant in their seat and extent, incompetent to the explanation of symptoms, and unnecessary to the characteristic phenomena of the disease.

In making these observations I do not mean to throw the slightest doubt on the accuracy of those observations, which, accumulating for many years, have shewn the singular frequency of intestinal ulceration in the fever at Paris and other situations on the Continent. That there exists a much greater disposition to these forms of disease in those situations must be admitted, a frequency almost sufficient to justify the doctrine of the justly celebrated Broussais, that typhus was but a gastro-enteric irritation. But as my excellent friend Dr. Staberoh has well remarked, we must study disease in various countries before we come to any conclusions as to its nature. Had Broussais examined the typhus of Great Britain and Ireland he would never have formed his theory of fever.*

If we compare the inexperienced man with him who has

* Dr. Lombard of Geneva has lately endeavoured to shew that the typhous fever of Ireland is a peculiar affection, differing from that of the Continent in the ab-

had a long continued practice in fever, we may often observe that the former employs a too vigorous antiphlogistic treatment in the commencement of the disease, and delays the exhibition of stimulants until the powers of life are sunk too low, while the latter is much more cautious in husbanding the strength of his patient, and shews much less fear of resorting to wine and other stimulants. It is in determining on the use of wine in fever that the junior or inexperienced man feels the greatest difficulty; it is in its exhibition that he betrays the greatest uncertainty and fear. This is to be explained by referring to the general character of the doctrines which have prevailed within the last quarter of a century, and which are only now beginning to yield to a more rational pathology. The doctrine of an exclusive or almost exclusive solidism, which referred all diseases to visible changes of organs, which taught that inflammation was the first and principal morbid phenomenon, and that fevers were always the result of—or accompanied with—some local inflammation, was, how-

sence of ulcerations. (See *Dublin Medical Journal*, vol. x. pp. 17, 101.) But the fact is, that intestinal ulcerations have been repeatedly observed in the typhus of Ireland, their amount and frequency varying with the epidemic influence. Of this we have abundant evidence in Doctor Cheyne's Reports. (See *Dublin Hospital Reports*, vols. i. and ii.) And in the epidemic of 1826 and 1827 we observed the follicular ulcerations (dothineritis of the French) in the greater number of cases. In many instances perforation took place, and the whole group of vital and cadaveric phenomena, corresponded almost exactly to the dothineritic typhus of the French authors. The prominent symptoms were thirst, nausea, epigastric tenderness, vomiting, diarrhoea, and tympanitis, and in almost every dissection we found the ulcerated patches of the small intestine. Since then no severe or decided epidemic of fever has occurred, but cases of typhus are to be met with, with or without this peculiar lesion. The researches of Dr. Bright and others in London, and of Dr. Staberoh in Glasgow shew, that ulcerations of the intestine occur not unfrequently in the typhous fever in these situations. We cannot then found any general distinction of British or Continental fevers on this circumstance, the difference is in the degree of liability. This may be explained by local circumstances, and original dispositions inherent in particular races.

ever disguised under various denominations, the doctrine taught to the majority of our students. Their ideas were thus exclusively anatomical; inflammation formed the basis of their limited pathology, and thus instructed, they entered on the wide field of practice, most of them having never even attended a fever hospital; utterly ignorant of the nature of essential fevers, they applied, in the diseases of debility, the treatment of acute local inflammation, and delayed stimulation until nature could not be stimulated.

Let it not be supposed that in this picture I seek to make a favourable contrast between the education which I myself received, and that given to others. Far from it; I confess that it was not until several years after I commenced practice that I became fully aware of the erroneousness of what is termed the anatomical theory of disease; and I feel certain, humiliating though the confession may be, that the fear of stimulants in fever with which I was imbued, was the means of my losing many patients whose lives would have been saved, had I trusted less to the doctrine of inflammation, and more to the lessons of experience, given to us by men who observed and wrote before the times of Bichat or of Hunter.

The hospital physician will be frequently asked by students to state the principle on which he administers wine in fever, I conceive that the question may be thus answered. Typhous fever is a disease which has a tendency to a spontaneous and favourable termination, but one in the course of which the powers of life are attacked by a most malignant influence. By wine, food, and other stimulants we support nature, until the struggle is past, so that, to use the words of an ancient author, which embody a more profound principle than appears at first sight, we "*cure the patient by preventing him from dying;*" that is to say, we prolong his existence until the natural and favourable termination of the disease arrives. We do not allow our patients to die of exhaustion, and bearing in mind the depressing influence they have to struggle with, we give stimulants at the

proper time, and with a bold hand. We give our patients an artificial life, until the period arrives when nature and health resume their sway.

Yet, though we may admire the practice of an experienced physician in the use of wine in fever, it will often be found that he has a difficulty in expressing any exact reason for adopting the practice in a particular case. His practice is founded on a knowledge which is often incommunicable, an almost instinctive perception of the necessity for stimulation, characteristic of the great physician, and only to be obtained by a long and close familiarity with the disease. But is there any rule by which *the inexperienced man* can be guided? any one distinct phenomenon, the observation of which is easy, and leading to an intelligible and communicable rule of practice. If the following statement of facts shall assist the inexperienced man in the treatment of a single case of fever, I shall feel more than rewarded, for I am convinced that it is to the fear of wine, or to ignorance of the principles of its exhibition, that we are to attribute the loss of many lives in the typhous fever of this country. I shall first speak of the influence of wine on the circulation in fever, and examine the phenomena of the pulse, the force of the heart, and the character of its sounds.

We have long observed, that when under the influence of wine the pulse became less and less frequent, the termination of the case was generally favourable, and as might be expected, the contrary result led to a bad prognosis. This practical observation I do not put forward as original, but I wish to express my great confidence in its truth.

Let us suppose a case of typhus on the tenth day of fever, and presenting severe symptoms of prostration, the pulse varying from 115 to 120. Wine is exhibited, and on the first day the pulse rises to 125, on the second to 130, and if on the third day there is no diminution, we may make a bad prognosis; and thus the following rule may be laid down, that when in a case where the symptoms seem to indicate wine, the pulse

either does not come down, or increases in frequency under its influence, we may expect a bad result.

These facts naturally lead to the examination of the state of the heart in typhous fever, and the cases in this report are so arranged, as to exhibit together the condition of the heart, and the amount of wine employed. *In this investigation we have sought for an additional rule, drawn from the state of the heart itself, to guide the inexperienced man in the exhibition of wine,* and I am not without hopes, that in the careful study of the cardiac phenomena, an indication hitherto unobserved will be obtained.

In typhous fever two opposite conditions of the heart may be observed ; in the one the impulse becomes extremely feeble, or altogether wanting, while the sounds are greatly diminished in intensity ; while in the other, the heart's action and sounds continue vigorous throughout the whole course of the disease.

These opposite states are not necessarily revealed by the state of the pulse, or the warmth of the surface. We may observe a hot skin, while the action of the heart is almost imperceptible, and on the other hand a patient may be pulseless, cold, and livid for days together, while the heart is acting with the greatest vigour.

The condition of the heart must be determined by the application of the hand and stethoscope to the infra-mammary and sternal regions. Of this principle the following case is an illustration :

CASE I.—*Petechial Typhous Fever with extreme prostration ; Failure of the Pulse, and Coldness of the Breath and Surface, with vigorous Action of the Heart ; liberal Use of Stimulants ; Employment of Transfusion of Blood ; Death ; Absence of organic Lesion.*

A middle aged woman was admitted into our wards in February 1837, at an early period of her fever. She had attended

upon and washed the clothes of a person who had died of a peculiarly malignant fever, yet on admission, and for several days subsequently, she presented no symptom beyond those of an ordinary and rather mild case of maculated typhus. From the first, however, she had a strong presentiment of death, which nothing could shake; she gradually became more and more collapsed; the surface was of a violet hue; the countenance sunken; and the skin and breath cold. From the eighth day no pulse could be perceived at the wrist, although the heart's impulse was strong, and the sounds remarkably distinct. She continued in this condition for some days, during which time stimulants of every kind were freely resorted to; on the fifteenth day the surface being icy cold, but the heart still acting with vigour, while no evidence of organic disease could be found in the abdomen or head, I advised transfusion, which was performed by my colleague Mr. Smyly. About six ounces of recently drawn blood were injected into the median basilic vein; a slight reaction followed, and the breath, which had been cold for several days, became warm. The pulse, however, did not return, and she died three days after the operation.

On dissection no organic lesion of any kind could be discovered in any part of the body; the heart was firm, and its muscular structure natural; no obstruction existed in any artery, but the whole quantity of blood seemed much diminished; the consistence of the blood was somewhat pitchy, and its colour very dark. The wound in the arm was still gaping, and did not present the slightest appearance of adhesion or inflammation.

This was certainly a rare form of fever, but, nevertheless, it establishes the point, that without any mechanical obstruction, we may have in fever, absence of the pulse, while the heart continues to act with vigour, and the case is one out of several which go to establish the conclusion to which I think we must arrive, *that a vigorous action of the heart in typhus points out that stimulants will not have so beneficial effect as in the*

opposite case. I shall present other illustrations of this principle in the course of the paper.

I now recur to the division of cases of typhus into those with, and those without altered phenomena of the heart. In the first class we observe :

1. Diminution and ultimate cessation of the impulse.
2. Diminution of the intensity of the sounds.
3. Cessation of one of the sounds.

These phenomena, hitherto undescribed, are among the most interesting of those connected with the heart which I have ever observed, and I shall be able to shew that they have a most important application in practice, as bearing directly on the question as to the use of stimulants in typhous fever.

I shall now present a series of cases observed particularly with reference to the heart. They are so arranged as to shew first, the general symptoms ; next, the phenomena of the heart and pulse ; and lastly, the amount of stimulants employed.

CASE II.—Severe Catarrhal Typhus ; Failure of the Circulation ; Cessation of the first Sound of the Heart ; Use of Stimulants ; Recovery.

John Keefe, ætat. 20, of rather muscular frame, was admitted on the 11th of April, the seventh day of fever, with severe nervous symptoms, and all the signs, both vital and physical, of an intense bronchial affection, predominating in the left lung. The skin was thickly covered with bright red petechiæ, which were confluent, forming large patches on the arms and thighs ; respirations twenty-eight, laboured ; pulse 120, small and very weak.

The heart's impulse was visible, and the contractions audible, but the second sound greatly predominated over the first. It was loud and distinct, while the first was very feeble, particularly at the left side of the heart.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
April 12.	Delirium ; intense bronchial rales ; insatiable thirst ; diarrhœa.	Pulse 120, weaker than yesterday ; impulse less perceptible ; <i>first sound nearly inaudible</i> ; carotid pulsations of good strength ; extremities warm.	Cupping ; blister to the sternum ; anodyne enema, and poultices to the belly.
„ 14.	Continual moaning ; petechiæ more diffused, and dark coloured.	Pulse about 112 ; impulse barely perceptible ; over the left cavities the first sound is scarcely distinguishable, while over the right it is more so ; <i>second sound very clear.</i>	Wine 10 oz. arrow root, decoct. senegæ.
„ 15.	Countenance improved ; much delirium ; bronchitis lessened ; diarrhœa continues ; the marks of the cupping glasses are black.	Pulse 112, contracted and compressible ; no impulse of the heart under the mamma ; the first sound totally inaudible, second less distinct than yesterday ; on the left margin of the sternum nothing can be heard but the second sound, and this feebly.	Wine 16oz. Blister to abdomen ; anodyne enema ; beef tea.
„ 16.	Looks better ; slept well ; diarrhœa less.	Pulse 108, stronger and fuller ; first sound audible over the whole præcordial region, second more distinct.	Repeat all.
„ 17.		Pulse 100 ; respirations 28 ; impulse again perceptible.	Wine 12 oz.
„ 18.		Impulse still stronger, striking over a greater surface ; both sounds distinctly audible at the inferior part of left side, and also to the right of the sternum ; pulse 96 ; respirations 32.	Wine 12 oz. ; jelly 2 glasses.
„ 19.	Bronchitis much less ; petechiæ fading ; bowels regular.	Pulse 76, full, of good strength ; heart's impulse more vigorous ; sounds as yesterday.	Wine 6 oz.
„ 20.		Pulse 88 ; phenomena of heart natural.	Wine 6 oz.
„ 21.		Ditto, ditto.	Wine 4 oz.
„ 23.	Convalescent. Patient discharged on 2nd May, perfectly well.		

In this case, and that which follows, we observe the remarkable and important peculiarity of the supervention of bad symptoms of prostration and putrescence at an unusually early period of the disease. This circumstance should always excite great apprehension, and lead to the exhibition of stimulants, notwithstanding the existence of various local irritations. In both these cases the chest and abdomen were severely engaged, and in both, the early exhibition of wine not only did no harm, but was productive of the happiest effects. The existence of signs of bronchitis or enteritis in our maculated fever does not necessarily contra-indicate the free and early use of stimulants.

In examining the efficacy of wine in typhus, if we compare the cases with predominance of enteric, and those with bronchial irritation, we generally find that in the latter group the stimulant is better borne, and there is a class of cases in which wine is scarcely admissible. These cases present signs of enteric irritation of great severity, alternating with violent nervous symptoms, unaccompanied by petechiæ, or other phenomena of putrescence. The use of wine is almost always injurious from its too violently exciting the brain. But in the bad petechial typhus with great prostration of strength, the existence of thirst, abdominal pain and tenderness, diarrhœa and tumefaction, should not prevent us from having recourse to wine.

I beg to draw the particular attention of my readers to the cardiac phenomena in this case; it may be right to state, that the stethoscopic observations in this and the succeeding cases were made with the greatest care.

We observed, in the first place, a progressively diminishing impulse; on the seventh day the impulse was visible at the side, but on the tenth was altogether wanting; it reappears on the twelfth, and continues to increase until the period of the patient's restoration to health.

In the second place, we find a singular modification of the sounds of the heart; the proportion between the two sounds

was lost on the seventh day, the first being exceedingly feeble, the second comparatively strong; on the eighth day the first sound was scarcely audible, and on the tenth it became extinct, and we had the singular phenomenon, never before observed, of the heart in typhous fever giving but a single sound. On the eleventh day, under the influence of powerful stimulation, the first sound reappears, and the second has more vigour; on the twelfth day both sounds are distinctly audible, and on the fourteenth the phenomena of the heart are natural.

We shall not here enter into speculations as to the cause of these phenomena, but proceed with a detail of facts.

CASE II.—*Severe maculated Fever, Delirium, Diminution of the first Sound of the Heart; Use of Wine in large Quantities; Recovery.*

Patrick Quin, æt. 20, was admitted on the 27th of February. It was stated that he had been ill but five days, but his appearance was that of a person after a much longer period of fever; he was collapsed, cold, and stupid, and covered with an abundant crop of dark livid maculæ; prostration extreme; eyes suffused; tongue covered with brown sordes; pulse 125, small and weak; heart's action feeble; respiration hurried. He was ordered 4 oz. of wine.

DATE.	GENERAL STATE.	PHENOMENA OF CIRCULATION.	TREATMENT.
Feb. 28.	Violent delirium during the night he is now in a state of collapse, lying on his back; constant jactitation; subsultus; cold extremities; retention of urine.	Pulse 132, soft, small, and variable; heart's impulse imperceptible; sounds defined; the pulsations in the carotids very feeble.	Wine 24 oz. blister to the head, turpentine enema.
March 1.	Slept well; in other respects is nearly the same, but is more easily roused; less suffusion of the eyes; considerable subsultus; he passed urine involuntarily.	Pulse 120, a shade stronger than yesterday; the <i>sounds of the heart are quite similar to those of the fetal circulation.</i>	Wine 24 oz. turpentine enema.

DATE.	GENERAL STATE.	PHENOMENA OF CIRCULATION.	TREATMENT.
March 2.	Slept well ; tongue moist ; respirations 30 ; maculæ fading ; extremities warm.	Pulse 130, fuller and stronger ; heart's action stronger, and sounds much louder—they approach to their natural character.	Wine 14 oz.
„ 3.	Violent delirium through the night ; skin hot ; bowels confined.	Pulse 104 ; heart's impulse stronger.	Wine 12 oz. enema.
„ 4.	No change ; great thirst.	Pulse 106.	Wine 16 oz.
„ 5.	Patient worse ; countenance more collapsed ; violent delirium ; picking of bed-clothes ; subsultus ; sighing ; contraction of the pupils ; incontinence of urine ; skin hot and dry ; mouth covered with black sordes.	Impulse of the heart plainly perceptible ; <i>second sound</i> much louder than the first ; pulse 120.	Wine 16 oz. Turpentine draught, with camphor, musk & opium mixture ; beef tea ; swathing with flannel.
„ 6.	Generally improved ; slept well ; much more sensible.	Pulse 106.	Wine 16 oz.
„ 7.	Complains of great thirst ; extremities warm ; maculæ bright red, and less abundant ; pupils natural ; tongue moist.	First sound of heart much stronger ; pulse 96.	Wine 16 oz.
„ 8.	Great improvement ; desire for food ; skin cool.	Heart's action nearly natural ; second sound much improved ; the abdominal aorta can be felt throbbing with force.	Wine 16 oz. ; omit mixture.
„ 9.	Skin cool ; slept well.	Impulse of heart vigorous ; strong action in the arteries of the neck and abdominal aorta ; pulse 88, strong and full.	Omit wine.
„ 12.	Convalescence perfect.	Sounds and impulse of heart natural ; pulse 72.	Full diet.

In this case, as in the one preceding, we observe the *early supervention* of bad symptoms, producing the same neces-

sity for early stimulation. Indeed it has rarely happened, that we were obliged to exhibit so large a quantity of wine on the fifth day of the disease, and I am convinced that nothing else would have saved the patient's life. It is impossible to lay down any rule, as to when the exhibition of wine should be commenced in our typhus, but the point must be regulated much less by the date of the fever, than by the actually existing condition of the patient. The circumstances which led to its exhibition on the fifth day were the great collapse, the livid colour of the petechiæ, the coldness of the extremities, and the feebleness of the heart; on the following day the symptoms pointed out the necessity of a great increase of the stimulants; the prostration was increased; the rapidity of the pulse augmented, *while the impulse of the heart had become imperceptible*. In two days after this a distinct improvement commenced. Yet, though phenomena of reaction shewed themselves, the wine was continued, though in diminished doses to the fourteenth day of the disease, and for the last three days its exhibition was combined with that of camphor, musk, and opium. The latter remedies were resorted to from the increase of the nervous symptoms on the eleventh day. The pulse on the day previous had been 106, it rose on the eleventh day to 120; it fell on the following day to its former standard, after which it gradually subsided to its natural rate.

In most cases in which wine is found to answer, the pulse comes down under its influence gradually and steadily; this I have before alluded to. In a few, however, we observe remarkable variations in the rapidity of the pulse. Of this the preceding case is an example; the increase of pulse, however, was met not by an augmentation of the wine, but by the exhibition of nervous medicines, which were productive of the happiest effect. Beef tea was also given, and the patient swathed with flannel, a measure of the greatest importance and value in the treatment of fevers with collapse, or with a tendency to bronchitis.

As connected with the rising of the pulse in typhus, the following rules with reference to the use of wine will be often found applicable:

1st. That the increase of rapidity is almost always an unfavourable symptom.

2nd. That when it occurs at an early period of the disease with a cool skin, and dark coloured eruption, it is to be met by an increase of wine.

3rd. That when it occurs in the latter period, accompanied by severe nervous symptoms, the patient using wine freely, we must carefully support the system, and exhibit, in conjunction with the wine, musk, camphor, and opium.

On the seventh day, in this case, the impulse and sounds of the heart were remarkably modified, the first was singularly diminished, and the sounds assumed characters closely resembling those of the foetal heart; this modification is not very common in typhus. In most cases, one of the sounds is much more influenced than the other, the proportion between them is thus greatly altered, and there is no resemblance whatever to the sounds of the foetal circulation. But when there is a great diminution of the intensity of both sounds, and the pulsations vary from 125 to 135 in the minute, the sounds exactly simulate those of the foetal heart. In this instance the proportion between the sounds was lost on the eleventh day, the first being exceedingly feeble, the second comparatively louder; this character disappeared on the thirteenth day, when the first sound regained its natural character, and it is a most interesting fact, that on the following day the second sound was observed to be exceedingly loud, while the abdominal aorta was throbbing with force.

I shall state the order of occurrence of the cardiac phenomena in this case.

1. Diminished impulse.
2. Impulse imperceptible.
3. Sounds of heart equally diminished (foetal character).

4. Impulse and sounds stronger.
5. Second sound proportionally louder than the first.
6. First sound stronger.
7. Sounds and impulse natural.

We shall hereafter show the importance of these observations, as bearing on the theory of the motions and sounds of the heart.

CASE III.—*Maculated Typhus; Absence of the first Sound of the Heart; extreme Slowness of the Pulse during Convalescence; Use of Wine in large Quantities; Recovery.*

Matthew Hickey, æt. 30, was admitted into hospital on the 15th of July, having had fever six days. Had been in the habit of drinking, but never to excess; he is the fifth of his family who has had severe maculated typhus; at present his countenance is much flushed; eyes suffused; maculæ abundant and of a bright red colour; tongue covered with a dirty brown fur, especially at the sides; great abdominal tenderness, particularly in the region of the liver. The chest, on percussion, yields a clear sound, and there are no stethoscopic indications of disease in either lung; the impulse of heart is not perceptible; although both sounds are audible, the second is heard to preponderate distinctly; pulse 124; respiration easy and natural; bowels free.

He was ordered

℞ Solut. Bicarb. Ammoniaë ℥ viii.

Acet. Morphiaë gr. $\frac{1}{4}$.

Tinct. Hyosciam. ℥ i.

Ft. Mist. Efferv. Capiat coch. amp. ii. tertiis horis.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
July 16.	Slept well ; bowels regular ; tongue thickly coated and dry ; convulsive respiration ; skin pale and very clammy.	Impulse of the heart is quite imperceptible, even when he lies on the left side ; to the <i>right of the left nipple the second sound alone is audible</i> ; pulse 120, rather feebler ; on sitting up the impulse is not rendered more evident.	Wine 12 oz., blister over the heart, beef tea.
„ 17.	There is still some abdominal tenderness ; slept pretty well ; respirations 28 ; interrupted by frequent sighing, and partaking of the cerebral character. He got altogether yesterday 20 oz. of wine and a little brandy.	The impulse is felt at the apex, but the sounds are by no means in proportion to its vigour ; they resemble those of the foetal heart ; between the fifth and sixth ribs the sounds are barely audible.	Wine 24 oz., two glasses of brandy, arrow root, blister to the scalp ; enem. emolliens.
„ 18.	Very restless ; has not slept ; frequently rises from his bed ; passes water freely ; tongue red at the edges, and covered in the centre with dark brown fur ; teeth coated with black sordes ; lies on his back in a semi-stupified state ; countenance collapsed and pale ; maculae very livid : respirations 32 ; on the back there are a few ecchymotic patches ; abdominal tenderness continues.	The sounds of the heart very feeble ; the first almost inaudible, the second is loud and clear, and at a point central between the nipple and sternum, this is much more marked ; the impulse can only be felt when the fingers are placed between the intercostal spaces.	Wine 24 oz., poultices to the abdomen.
„ 19.	Skin cooler, moistened with perspiration ; the respiration although laboured, has lost its cerebral character ; the ecchymotic patches are fading ; tongue cleaner ; abdominal tenderness less ; is more animated.	Pulse 116 ; impulse of heart the same as yesterday, the first sound is entirely absent, the second is distinct.	Wine 24 oz., blister and poultice to the epigastrium.
„ 20.	The countenance has lost the peculiar typhoid expression ; the petechiae are fading ; breathing still laboured.	Impulse of the heart quite imperceptible ; the first sound is just audible ; pulse 96.	Wine 18 oz.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
July 21.	Passed a restless night; breathing much easier. He is quite sensible.	Pulse 80, and of good character; the sounds at the upper portion of the chest are proportionate but feeble; at the apex, and nearer the ensiform cartilage, the second sound still predominates.	Wine 12 oz.
„ 23.	Countenance more animated; skin cool; maculæ almost gone; complains of thirst; passes large quantities of pale-coloured urine.	Pulse 76; impulse of the heart perceptible; sounds proportionate.	Wine 6 oz.; Haustus Rhei.
„ 24.		Pulse 76.	Wine 6 oz.
„ 26.	Sleeps well; appetite good; petechiæ gone.	Pulse 60: of very good strength.	Wine 6 oz.
„ 28.		Pulse 50.	Wine 6 oz.
Aug. 1.	Is allowed to sit up during the day; is not fatigued; appetite very good.	Pulse 32; counted most carefully twice over.	Gets bread and milk.
„ 4.	Feels perfectly well.	He is sitting up in bed, and the pulse at this time is 32.	As yesterday.
„ 6.		He is now eating his breakfast: pulse at this moment 56.	
	Discharged in a few days.	Pulse 60.	

This case was one of extreme interest; the severity of the symptoms, the quantity of stimulants used, and the remarkable modifications of the heart's action, all combined to render the patient an object of the greatest attention to the class.

The diminution of the first sound of the heart was the circumstance which led to the exhibition of stimulants boldly, at an early period of the case. We observed that on the seventh day the impulse was imperceptible, and the first sound was

diminished. On the eighth, the first sound had disappeared, and although the other symptoms did not seem to call for active stimulation, we ordered wine in free doses from this indication alone, and the result justified the treatment. Here was a case of a young man of a good constitution, in which, from studying the action of the heart, we were able to anticipate the symptoms of general prostration, and by the early and bold use of wine, to prevent the fatal result which, it is almost certain, would otherwise have occurred.

The order of the succession of the cardiac phenomena in this case was peculiar. We had

1st. The early subsidence of the first sound.

2nd. Both sounds audible, but with the foetal character.

3rd. Predominance of the second sound.

4th. Complete absence of the first sound.

5th. Impulse imperceptible, with returning first sound.

6th. The sounds at the base of the heart proportionate, while at the apex the second predominates.

7th. The sounds natural.

The pulse, too, presents some interesting points for consideration. Within a period of twenty days its rate was as follows :

7th day of Fever	.	.	124
8th „ „	.	.	120
11th „ „	.	.	116
12th „ „	.	.	96
13th „ „	.	.	80
15th „ „	.	.	76
17th „ „	.	.	60
18th „ „	.	.	50
22nd „ „	.	.	32
27th „ „	.	.	56

In a few days it rose to 60.

Laennec has suggested, that the rapidity of the pulse observed during the convalescence of fevers might depend on a softened condition of the heart. As I shall have occasion to notice his opinions on the state of the heart in typhous fever at greater length presently, I shall merely observe, that in those cases in which the pulse continued rapid during convalescence, the fever was seldom of the petechial or putrid character ; and one of the most remarkable phenomena in our fevers during the last year, was the return of the pulse to its natural rate, even before the whole group of typhoid symptoms had disappeared ; and so far from a quick pulse being common *during the convalescence* in cases which had shewn the signs of putridity, we found more frequently a singular slowness continuing for several days, until the patient was able to leave his bed.

CASE IV.—*Maculated Fever ; great Feebleness of the Heart's Action ; free Use of Wine ; Convalescence on the seventeenth Day.*

Bryan Kean, æt. 24, of strong muscular development, was admitted on the 25th of March, having been then nine days ill : his countenance is dull, stupid, and of a livid hue ; eyes heavy, and suffused ; he is in a state of great stupor and prostration ; decubitus on the back. Skin hot, dry, and covered with small livid petechiæ ; tongue fissured, brown, and parched ; has great thirst, and suffers much pain from pressure on the epigastrium ; respirations 40, not laboured, and a few bronchitic rales can be heard in the left lung ; the pulse 120, small and weak ; the heart's impulse almost imperceptible, and the first sound so feeble as to be inaudible to the left of the mamma, but it can be distinguished between the mamma and sternum. Ten leeches were ordered to the epigastrium, turpentine enema, artificial heat to the extremities, and eight ounces of wine.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
	Slept well ; countenance more livid ; thirst insatiable ; teeth covered with sordes ; epigastrium less painful ; extremities perfectly livid and cold.	Pulse 116, small and weak ; impulse of the heart quite imperceptible ; sounds are exceedingly feeble, they are almost inaudible below and to the left of the mamma, so that it is very difficult to distinguish between the first and second sounds, the sounds as it were running one into the other ; between the mamma and sternum they are stronger, and better defined ; the second is much clearer than the first. If the rapidity of the heart was a little increased, nothing could more closely resemble the fœtal circulation.	Wine 16 oz.
	Continued raving ; involuntary evacuations ; countenance improved ; extremities cold and livid.	Pulse 92, small, but distinct, stronger, and perfectly regular ; the action of the heart can be seen between the fifth and sixth ribs, but can scarcely be felt ; sounds of the left side remain as yesterday, those of the right are more distinct.	Repeat wine.
March 28.	Continued low muttering delirium ; great prostration ; involuntary passage of urine ; extremities very cold, notwithstanding the use of artificial warmth ; petechiæ livid ; respirations 24 ; intelligence improved.	Pulse 84 ; impulse of heart less perceptible, but the first sound has more vigour.	Wine 16 oz., musk, camphor, and ammonia mixture ; two glasses of jelly.
„ 29.	Great improvement ; extremities warm ; petechiæ of red colour ; tongue cleaning ; slept well ; respirations 20.	Pulse 84, firmer and steadier ; when he lies on the left side the impulse of the heart is very perceptible, when on the back it is less so, but more evident to the touch than on yesterday ; sounds increased in strength and distinctness.	Wine 12 oz., omit mixture ; to have beef tea.
„ 30.	Improvement continues, but the lower extremities are liable to become cold	Pulse 72, fuller and stronger ; pulsations of the arteria innominata are distinctly vi-	Wine 8 oz., beef tea.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
April 1.	when the artificial heat is removed ; the urgent thirst remains ; tongue still brown. Convalescent.	sible at the top of the sternum ; impulse of heart as before, but the sounds have improved in strength. Pulse 72, full and compressible ; heart's sounds strong and natural.	Wine 4 oz., beef tea and chicken broth.
„ 2.	Do.	Do.	Omit wine.

We have here another case in which we were led to the use of wine on the ninth day of fever, almost wholly from the observation of the phenomena of the heart. Although the case had a generally bad aspect, yet I do not think that I would have been so bold in the exhibition of wine, had the patient been admitted before these researches had been commenced. There were many circumstances which seemed to contra-indicate wine : the patient was a young and robust man ; his skin was hot and dry ; his tongue brown and parched ; he had extreme thirst, and great tenderness of the epigastrium. Some years ago I would not have dared to have given this man wine, from the apprehension of its increasing gastric inflammation. On the other hand, he had great prostration, and the petechiæ were of a livid hue ; but it was on the cardiac signs that we relied ; we had new and positive guides, and they did not deceive us.

I greatly doubt whether there is any symptom which we can depend on as indicative of gastric inflammation in petechial typhus. That the condition of the tongue is fallacious has been established by Andral and Louis from numerous dissections, and the utility of wine and other stimulants, when the tongue is dry and brown, gives another and different description of proof. In a paper on the use of wine and opium in fever, published by my colleague Dr. Graves in the first volume of

the Dublin Journal of Medical Science, he observes : “ In the first place, as to the tongue, *at an advanced period* of fever, I have often derived the greatest advantage from wine and opium, although the tongue was dry, the colour of old mahogany, or else coated with a yellowish brown dry fur, and protruded with difficulty, while the teeth and gums were covered with sordes ; wine or porter, in moderate quantities, seem generally to agree with this tongue better than opium ; in some cases, however, the latter is indispensable. For fear of misleading the reader, I must again remark that I by no means wish to assert that such a tongue uniformly, or even frequently, indicates the use of these medicines : on the contrary, this state of the tongue and mouth will often be observed at a time when leeches and the antiphlogistic treatment are required. Let it be clearly understood, however, that at an advanced period of fever this state of tongue may exist, and yet wine and opium may be given boldly, provided, as I have said before, the general state of the patient seems to require it.”

Let it be recollected, that in this case we had the symptoms of a dry and brown tongue, great thirst, epigastric tenderness, and heat of skin. On the first day of treatment leeches were applied to the epigastrium, and wine exhibited to the amount of eight ounces. I have frequently leeches the epigastrium, and ordered wine on the same day, and with benefit. In our case the epigastric tenderness was lessened, but the thirst continued insatiable : the quantity of wine was doubled. Two circumstances led to this, one the extreme coldness and lividity of the extremities ; and the other, the increasing indications of debility of the heart, as shewn by the great indistinctness of the first sound, and the approach of the stethoscopic phenomena to what we term *the foetal character*.

On the third day of the use of wine, and eleventh of the disease, the pulse fell from 116 to 92, and the first sound began to recover its natural intensity : this change was first *perceived over the right cavities of the heart*. This curious fact I have

repeatedly observed, and I think it may be stated, that in all cases in which the first sound is lessened or obliterated, the return to the natural character is first perceived over the right side of the heart. Whatever be the cause of these interesting phenomena, it seems much more to engage the arterial than the venous side of the heart.

CASE V.—*Maculated Typhus, with Diminution of the first Sound of the Heart ; Use of Wine and Brandy.*

John Smyth was admitted into the Meath Hospital on the 19th May ; the tenth day of his fever. He is a strong, powerful man ; has been accustomed to drink ardent spirits, but was not very frequently intoxicated ; at present is very low : he was last night constantly getting out of bed ; passes his water under him ; the petechial eruption is thickly diffused over his body ; tongue dry, and red in the centre ; intellect this morning clear ; pulse 124, very small, and easily compressed ; the impulse of heart feebly perceptible ; the first sound very indistinct, the second clear ; above the mamma the first sound is scarcely audible. Ordered wine \bar{z} viii.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
May 20.	Passed a good night, did not rave ; respirations 36 ; retention of urine ; extremities cold.	Impulse of the heart imperceptible, second sound predominates over the first ; pulse 124.	Wine 12 oz., glass of hot brandy punch.
„ 21.	Slept well, no raving ; petechial eruption livid ; eyes suffused ; respirations 36 ; tongue cleaner ; retention of urine continues, requiring frequent use of the catheter ; bowels regular ; bronchitis very acute.	Pulse 112 ; the impulse of the heart is perceptible when he lies on his left side ; the second sound predominates considerably over the first.	Wine 12 oz., dry cupping to chest extensively ; blisters to the region of the heart.
„ 22.	Had some sleep, no raving ; countenance improved ; eyes less suffused.	Pulse 100, full and regular, <i>whereas before the additional quantity of wine given</i>	Wine 20 oz. In consequence of his low state

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
		<i>yesterday it was intermitting</i> ; sounds of heart feeble, second still predominates.	he was given 8 oz. of wine additional yesterday ; beef tea one pint ; pulv. ipecac. gr. $\frac{1}{2}$; ammon. carb. gr. ii., ft. pil. ter die sumend.
May 23.	Passes his urine and fæces under him ; respirations 32, not so laboured ; extremities warmed by artificial heat ; great prostration.	Pulse 84, small ; the impulse of the heart is more distinct to-day ; the first sound is still below par.	Wine 20 oz., beef tea 1 pt., jelly, a glass ; blisters over the heart and nape of neck.
„ 24.	Countenance much improved ; slept well ; when he is raised in bed, he complains of lightness of his head ; bronchitis considerably better.	Pulse 80 ; impulse of heart perceptible, the first sound is stronger.	Wine 20 oz.
„ 25.	Passes his urine freely ; had a quiet night ; is much better.	Pulse 80, very good strength ; impulse of the heart natural, sounds proportionate.	Wine 16 oz.
„ 26.	Scarcely any cough ; sleeps well.	Pulse 70, regular ; phenomena of heart as in last report.	Wine 16 oz.
„ 27.	Sat up yesterday ; is still a little nervous.	Pulse 72.	Wine 6 oz.
„ 28.		Pulse 72 ; sounds and impulse of heart perfectly natural.	Wine 6 oz.
„ 29.	Convalescent.		

CASE VI.—*Maculated Fever, with severe Gastro-Catarrhal and Nervous Symptoms ; remarkable Modification of the Heart's Action ; Use of Wine.*

Thomas Cavanagh, æt. 15, was admitted on the 14th of April, being then three days ill : he had a few indistinct pale

spots on the back ; excessive thirst ; diarrhœa, and tenderness of the epigastrium ; there was slight cough, with abundant frothy mucous expectoration. Pulse 120, small, and easily compressed ; but the impulse of the heart is strong, and the sounds distinctly heard over a large portion of the chest. The epigastrium was leeched, and effervescing draughts ordered.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
April 16.	General symptoms continue ; respirations 32.	Pulse 126 ; impulse of heart not so strong.	Four leeches to the epigastrium ; enema emolliens.
„ 17.	Maculæ more distinct ; the abdominal symptoms continue ; respirations 36 ; some delirium.	Pulse 120, weaker ; impulse of the heart scarcely visible, but is quite perceptible to the touch ; sounds are natural.	Hip bath ; poultice to the abdomen.
„ 18.	Copious sweating after the bath ; he is worse this morning ; constant low delirium ; countenance pale and depressed ; less heat of skin ; maculæ abundant, and becoming livid ; tongue dry, brown ; great thirst ; considerable tenderness in the ileo-cæcal region.	Pulse 132, still weaker ; impulse of heart can be seen and felt ; the sounds are exceedingly weak, <i>particularly the first, which is scarcely audible.</i>	Eight leeches to the abdomen ; small doses of hydrarg. c. creta and Dover's powders.
„ 19.	Debility increased ; skin hot and dry ; petechiæ universally abundant, and of a dark livid hue ; respirations 30, less labour-ed ; great thirst.	The sounds of the heart exactly resemble those of the fœtus at the eighth month ; an exceedingly indistinct impulse can be felt at the end of expiration.	Wine 3 oz. ; arrow root.
„ 20.	Slept better, less raving ; countenance improved ; eyes less suffused ; abdominal symptoms continue ; respirations 28, interrupted by frequent sighing ; sonorous and sibilous rales in posterior portion of the chest ; two small gangrenous spots on the left ear.	Pulse 140, slightly improved in strength ; impulse of heart more perceptible, and its sounds can be heard to the right of the sternum.	Wine 3 oz. ; arrow root.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
April 21.	Slept well, and is more collected ; complains of extreme thirst ; respirations 32 ; skin hot and dry ; maculæ unusually abundant, and livid ; one of the ecchymosed spots on the ear has vesicated ; extremities warm.	Pulse 132, fuller, more firm ; impulse of heart as yesterday, but the sounds to the right of sternum are not so distinct, particularly the first, which is remarkably feeble.	Wine 5 oz.
„ 22.	Symptoms as before ; respirations 40.	Pulse 125 ; no change in the heart.	Wine 5 oz. ; repeat rest.
„ 23.	Raving continues ; skin cooler ; maculæ not so livid ; cough worse, with much stuffing.	Pulse 135. When he lies on the left side, the impulse of the heart is strong, first sound more distinct.	Wine 5 oz. ; fetid enema.
„ 24.	The typhoid expression quite gone ; eye clear and sprightly.	Pulse 110, soft and much improved ; impulse and sounds still stronger.	Wine 5 oz. ; Ipecac. and carb. ammonia in pills.
	Convalescent.		

The two preceding cases exhibit still the same phenomena, the diminution of the impulse of the heart and of its sounds, particularly the first. In the case of Cavanagh, we observed the change from the natural to the morbid condition, for the patient was admitted at an unusually early period of fever. In that of Smith, the first sound of the heart was altered on admission. In bad cases, the alteration of the sounds may be expected on or about the fifth day. The change does not seem to be accompanied by any peculiar disturbance of the circulation. *We have as yet recorded no evidences, physical or vital, of a local irritation accompanying or preceding the diminution of the first sound ;* and our dissections and those of Louis agree as to the absence of the usual appearances of carditis.

In the case of Smyth, the quantity of wine employed was much greater than in that of Cavanagh ; for this there were

several reasons : the greater age of the patient, and his having been addicted to ardent spirits being the principal : besides, we could not tell how long the morbid condition of the heart had existed before admission ; and it was acting on the safe side to assume that it had continued for several days, a circumstance which would indicate great activity in stimulation.

In the fevers of children, and of persons but a few years beyond puberty, the necessity for the use of wine is seldom so urgent as in those beyond twenty, or twenty-five ; but we have had several cases of maculated typhus in children, with such prostration as to demand a free use of wine, which had the best effect, notwithstanding the existence of what we consider local inflammations.

CASE VII.—Maculated Fever ; with signs of Bronchitis and Enteritis ; Purulent Discharge from the Nose ; great Prostration ; Use of Wine ; Recovery.

Henrietta Wright, æt. 13, was admitted on the 9th April, after having been in fever upwards of a fortnight ; her countenance was collapsed ; the face livid ; nocturnal delirium ; violent headach, with a copious purulent discharge from the nostrils ; extreme thirst ; she was constantly sobbing and moaning ; skin hot, and covered with an abundant crop of small livid maculæ. Intense bronchitis, unaccompanied by expectoration ; complains of pain on pressure of the epigastric region ; pulse 120, exceedingly feeble ; impulse of heart extremely weak, and more distinct with the second than the first sound ; the second sound is very clear, the first scarcely audible ; it is more distinct over the right than the left side. Ordered, wine 4 oz., blister over the epigastrium, and Ipecac. and Pil. Hydrarg. four times in the day.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
April 11.	Low muttering delirium ; eyes suffused ; countenance depressed ; tenderness of epigastrium increased : pain referred chiefly to forehead ; mucous expectoration, with troublesome cough ; bowels not opened since yesterday ; respirations 46, hurried.	Pulse 125, very feeble ; impulse of the heart as yesterday ; first sound improved.	Wine 4 oz. ; blisters to the head and legs ; ice to the temples ; turpentine enema ; arrow root ; barm.
„ 12.	General improvement at 4 o'clock P.M. ; yesterday her pulse was imperceptible, and extremities cold. Bronchial rales intense over the whole chest ; discharge from the nose less profuse ; cough troublesome ; expectoration copious.	Pulse 120, stronger and fuller ; sounds of the heart are more distinct ; impulse can be felt.	Wine 4 oz. ; chicken broth ; flannel waistcoat.
„ 13.	No improvement ; constant sobbing ; headach ; abdomen hard, full, and very tender ; bronchitis continues intense and general ; respirations 48.	Pulse 110 ; heart's action more vigorous.	Wine 4 oz. Blister between shoulders ; poultice to the belly ; chicken broth.
„ 14.	The catarrhal and nervous symptoms continue ; she is continually turning up her eyes ; respirations 40, convulsive and hurried, accompanied with sobbing ; abdomen exquisitely tender ; face more livid.	Pulse 105, stronger than yesterday ; impulse can be felt, but the sounds are masked by the bronchial rales.	Repeat cataplasm. abdom.
„ 15.	She is much improved, maculæ indistinct ; abdomen still very tender ; secretion from the nose has ceased ; respirations 40.	Pulse 110.	Repeat all.
„ 16.	Improvement continues ; abdominal tenderness nearly gone ; lividity has disappear-	Pulse 108 ; impulse and sounds more distinct.	Wine 4 oz. ; antimonial solution.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
	ed ; respirations 56, yet not laborious ; musical and cre-pitating rales predominating in left lung, which is clear on percussion.		
April 17.	General improvement ; res-pirations 55 ; <i>perfectly easy</i> .	Pulse 84, soft and full.	Wine as be-fore.
„ 21.	Complete convalescence.	Pulse 56.	Do. do.

In this case, the circumstances which might seem to contra-indicate the exhibition of wine were, that the patient was not yet arrived at the age of puberty, the heat of the skin, and the violent symptoms of abdominal and thoracic irritation. On the other hand, she had been upwards of a fortnight ill ; had a collapsed countenance ; the petechiæ were livid, and the first sound of the heart scarcely audible. To these indications must be added that of the purulent discharge from the nose, a symptom not by any means common, but one which doubtless pointed out a necessity for stimulation. I have seen this symptom in but two cases of typhous fever ; it is a very peculiar, and in my opinion, alarming one. The pus runs from the nostrils in a copious and continued stream ; the nose is somewhat swelled, and the patient lying on the back, and in extreme prostration, presents a close resemblance to an individual labouring under glanders.

It will be observed that on the 16th of April the antimonial solution was ordered : this was done with the view of relieving the bronchial irritation ; its exhibition, however, at this advanced period of the case involves a point of practice of great importance, namely that in certain cases the typhoid symptoms prevent us employing an antiphlogistic treatment for many days ; a change then takes place, and the patient will bear a reducing treatment for the relief of local disease, which before would

have been dangerous : to this I shall hereafter return. It will be seen, in the case under consideration, that while the anti-mony was ordered the wine was not discontinued.

Great advantage was obtained by poulticing the abdomen in this case ; I have the greatest reliance on this treatment in the secondary abdominal irritations of fever. It was, I believe, first recommended by Broussais. It is particularly advantageous where the weakness of the patient forbids the use of leeches.

In the same class of cases, my friend Dr. Lees has treated a great number of patients by the use of the hip bath. For the success of this treatment, in many of his cases, I can vouch ; and to his judgment, in the management of the remedy, I can bear full testimony.

CASE VIII.—Petechial Fever, with Bronchitis ; Diminution of the First Sound of the Heart ; Use of Wine ; Recovery.

Thomas Wallace, admitted on 10th May, eleventh day of his fever, complaining of intense headach ; general eruption of petechiæ ; the sounds of the heart were feeble, but proportionate ; impulse imperceptible ; pulse 98, full but easily compressed. Ordered wine 8 oz., Mist. Camph. c. Carb. Ammon.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
May 11.	Pupils contracted ; countenance flushed ; decided bronchitic rales.	Impulse of heart just perceptible ; the sounds are acquiring the fœtal character : between the fourth and fifth intercostal spaces scarcely anything is heard but the second sound ; pulse 92.	Continue wine and mixture ; cupping, and blister to the chest.
„ 12.	The bronchitis more severe, but the countenance has a better expression.	The first sound is more distinct ; at the mamma both sounds can be heard, although feebly ; pulse 84.	Wine 12 oz., Decoct. Sene-gæ, et Carb. Ammon. ; dry cupping between the shoulders.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
May 13.	Bronchitis continues.	Both sounds are now distinctly audible under the mamma and below the sternum.	Wine 8 oz. ; rept. alia.
„ 14.	Slept well ; some aphonia, with tenderness of the trachea on pressure ; countenance flushed.	The impulse of heart just perceptible ; sounds distinct, still feeble ; pulse 92.	Wine 8 oz. Blister to throat.
„ 15.	Bronchitis less : passed a good night.	Both sounds of the heart are proportionate ; pulse 82.	Wine 6 oz.
„ 16.	Bronchitis subsiding in the right lung, but engaging the minute tubes of the left to a considerable extent.	Both sounds proportionate and distinct ; pulse 88.	Wine 6 oz.
„ 21.		Impulse of the heart perceptible ; the sounds natural ; pulse 60.	Dry cupping ; senega mixture, with antimony.
„ 24.	On this day he was pronounced convalescent.		

CASE IX.—Petechial Fever ; Diminution and Temporary Alteration of the first Sound of the Heart ; Recovery.

Thomas Devereux admitted into hospital on the 23rd of May ; the eight day of fever. Petechiæ plentiful, but of healthy colour ; respirations hurried ; complains of cough, which is accompanied with a frothy mucous expectoration ; bronchitic rales are only heard in the upper portion of the right lung,—is very low ; pressure on the abdomen gives pain ; great thirst : the impulse of the heart is scarcely perceptible ; the sounds are proportionate, but feeble ; pulse 112. Ordered six leeches to the epigastrium ; castor oil 3 oz., in emulsion, with tinct. opii ℥iii.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
May 24.	Complained of intense headach yesterday evening, which was relieved by epistaxis ; bronchitic rales very intense ; breathing laboured ; respirations 40.	Sounds of the heart are feebler than yesterday ; pulse 116, fuller and stronger.	Wine 6 oz. ; cupping to 8 oz. ; emp. lytæ over the heart.
„ 25.	Bronchitic rales not so intense ; respirations 48 ; countenance more animated ; abdominal tenderness completely gone ; had slight epistaxis yesterday evening ; some headach.	Pulse 108 ; sounds of the heart <i>somewhat louder over the apex</i> ; impulse perceptible.	Omit wine ; leeches to the temples.
„ 26.	Three leeches were applied, and gave great relief ; respirations 48 ; slept well.	The pulse taken early in the morning was 108 ; later in the day 116 : the sounds of the left cavities of the heart are exceedingly feeble, <i>at the apex the first sound can be distinguished, but at the mamma only the second is heard</i> ; the superiority of the second over the first is also perceived over the right cavities ; impulse just perceptible.	Mist. efferves.
„ 27.	Slept well ; bronchitis better ; complains of stuffing in his head ; countenance to-day is more flushed ; had slight epistaxis yesterday evening ; respirations 44.	Pulse 100, soft and compressible ; impulse of the heart perceptible ; the sounds are feeble, the second still predominates over the first.	Omit mixture ; porter a pint ; arrow root diet.
„ 28.	Had slight epistaxis yesterday evening ; slept well.	The sounds of heart are yet feeble, the second predominating over the first ; pulse 96, good strength.	Senega mixture.
„ 29.	Respirations 28, easy ; no headach ; slept well.	Sounds to the left of mamma very weak, <i>distinct however ; much stronger to the right.</i>	Continue.
„ 30.	Respirations 28 ; tongue clean and moist ; skin cool ; slept well countenance improved ; still has slight bronchitis.	Pulse 76, soft ; phenomena of the heart as before.	Continue ; porter one pt.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
May 31.	Much improved.	Impulse of heart perceptible ; the sounds over the left cavities are stronger, the two sounds being now proportionate.	Porter one pt.
June 1.		Pulse 60, natural ; the sounds of the heart are stronger ; impulse perceptible.	Porter and beef tea.
„ 8.	Convalescent.		

CASE X.—*Petechial Fever ; Supervention of Signs of Bronchitis on the twelfth Day ; slight Change in the Phenomena of the Heart ; moderate Use of Wine ; Recovery.*

Rose Devereux, admitted on the 23rd June ; eight days ill ; at present complains of great pain and soreness in all her limbs ; headach ; pressure on the abdomen gives pain, especially in the epigastrium and hepatic region ; no bronchitis ; both sounds of the heart are natural ; impulse perceptible ; pulse 100, feeble ; on being made to sit up in bed, she is obliged to cling for support to the bed-side, in consequence of a feeling of lightness in her head, and dimness of sight ; respiration easy ; tongue clean ; no petechiæ.

Hirudines x. Epigastrio. Haustus Efferves.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
June 25.	Intense headach ; great thirst ; nausea and retching whenever she attempts to sit up ; no abdominal tenderness ; bowels costive ; respirations 40.	Pulse 112, compressible ; both sounds of the heart are proportionate ; impulse perceptible.	Tart. potass. et Sodæ, $\frac{1}{2}$ oz. enema purgans.
„ 26.	Slept well ; no headach ; slight epistaxis yesterday evening ; bowels free ; no bronchitis or cough.	Pulse 116 ; impulse perceptible ; both sounds of the heart are natural and proportionate.	Milk whey.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
June 29.	Yesterday evening complained of great oppression in her breathing; on percussion the chest was clear, <i>but a most intense bronchitis engaged the whole of left lung</i> ; did not sleep last night; countenance anxious; constant nausea; some cough; sputa viscid; bowels free; respirations 36.	The sounds of the heart are much obscured this morning in consequence of the intensity of bronchitis; they are, however, sufficiently clear to enable us to determine that they are proportionate; impulse perceptible; pulse 124.	Cupped freely yesterday evening. Pil. hydrarg. gr. iii., pulv. Ipecac. comp. gr. ii., ft. pil. quater in die sumend.
„ 30.	Passed a tolerable night; cough not very troublesome; tongue slightly furred; skin cooler; bronchitis in both lungs; respirations 40; bowels regular; had some vomiting yesterday evening, of a greenish fluid; nausea continues.	Pulse 124; impulse of the heart quite imperceptible; sounds hurried, feeble, but proportionate.	Repeat pill.
July 1.	Vomiting last night; the fluid thrown off the stomach is of a dirty green colour, the consistence of treacle; no headach; complains of great oppression in her chest; bronchitic rales are not so intense; petechiæ abundant.	Pulse 120; impulse imperceptible; sounds very feeble, but proportionate.	Wine 6 oz.; repeat pill.
„ 2.	Bronchitis much better; she breathes very easily; vomiting this morning; skin cool; petechiæ paler than yesterday.	Pulse 96, feeble; no impulse to be felt; sounds stronger than yesterday.	Wine 6 oz.; omit pills.
„ 3.	Very much improved; slept well last night; complains of thirst; no headach; respirations natural.	Pulse 76.	Wine as before.
„ 4.	Countenance much improved; no headach; scarcely any bronchitis; respirations natural.	Pulse 76; sounds proportionate, but the impulse cannot yet be felt.	Continue treatment.
„ 5.	As yesterday.	Pulse 60, tolerable strength; impulse of the heart is just perceptible.	Repeat all.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
July 6.	Sat up in bed the greater part of yesterday without any inconvenience ; appetite very good.	Pulse 60 ; impulse of the heart is perceptible ; sounds proportionate.	Repeat.
„ 7.	Convalescent. In a few days was discharged cured.	Pulse 60 ; of good strength.	Continue wine 6 oz.

In the three preceding cases a general similarity may be observed : in all there was the petechial eruption, and the signs of bronchitis existed at some period of the cases respectively. In the two first, those of Wallace and Thomas Devereux, we had the peculiar phenomena of the heart well marked ; while in the third—they were so slightly manifested, that it is difficult to say whether the patient really had any positive affection of the heart. It is remarkable, accordingly, that the necessity for the use of wine was by no means so great in her case. Indeed the quantity of wine employed in the female wards is greatly less than in the male ; the phenomena of putrescence being much more often manifested in the male subject.

In the case of her brother Thomas Devereux, the diminution of the first sound was most remarkable. The case illustrates some curious points.

In the first place it shows how little we can judge of the actual condition of the heart by the examination of the pulse. On the ninth day the pulse had increased in frequency, volume, and strength ; and yet the sounds were more feeble than on the day before. I have shown that we may have a vigorous heart with a feeble pulse, or even absence of pulse, and here we have the converse of the proposition. The sounds of the heart became more feeble while the pulse was stronger. Indeed we could never determine from the pulse whether or not the phe-

nomena of the heart were altered, and the fact is, that it is by the physical signs, and the application of the hand alone, that we can ascertain how far the heart is affected in typhous fever. In this case, however, the fulness and increased strength of the pulse preceded a certain degree of reaction ; for on the next day the sounds were louder, the countenance more animated, and there was headach : we then omitted the wine. The excitement, however, was but temporary, for in twenty-four hours *the first sound was completely lost at the mamma.*

We sometimes meet with cases in which stimulation is necessary, yet the patients do not bear wine well. In such cases I exhibit porter, which answers well.

CASE XI.—*Petechial Typhus, with Diarrhœa and Bronchitis ; Cessation of the first Sound of the Heart ; Exhibition of Wine delayed till the twelfth Day ; Return of the first Sound on the fourteenth ; Recovery.*

John M'Kone was admitted on the 1st May, on the eighth day of his fever ; there is no petechial eruption ; complains of troublesome cough ; bronchial rales in both lungs ; tongue covered with a brown crust ; the impulse of the heart *is perceptible ; the first sound* is almost inaudible, the second is perfectly distinct ; pulse small, 120.

Pil. Hydrarg. gr. iii. Pulv. Doveri, gr. ii. ter die sumend.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
May 2.	Raved during the night ; got some sleep towards morning ; seems much depressed.	Pulse 120, small and quick ; impulse of heart is still perceptible ; the second sound predominates considerably over the first.	Repeat medicine.
„ 3.	Passed a much quieter night than the last ; raved a good deal towards morning ; tongue very much furred ; great thirst ; bronchitis continues ; maculæ are now very plentiful ; headach.	Pulse 120, and fuller ; impulse scarcely perceptible.	Ext. hyoscyam. gr. iii., pulv. Ipecac. gr. ss., tertiis horis sumend.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
May 4.	Raved much less last night; no headach; eyes suffused; countenance rather flushed.	Pulse 120; the first sound of the heart is almost lost; the second is distinct.	Beef tea.
„ 5.	The petechiæ are not more livid, nor are they paler; some purging yesterday and to-day.	Pulse 124, easily compressed; <i>the double character of the sounds of the heart is now completely lost; the second alone being audible; the impulse is not to be felt.</i>	Wine 10 oz. chalk and opium mixture
„ 6.	Has passed a great many bloody stools; much delirium; his countenance, however, is not expressive of great depression; rest broken by being obliged to leave his bed; petechiæ have faded considerably.	Pulse 112; the sounds and impulse as yesterday.	Wine 10 oz.; repeat mixture; beef-tea.
„ 7.	Was exceedingly delirious the whole night, so much so as to render the strait-waistcoat necessary; has passed three motions not bloody: subsultus tendinum.	Pulse 92; the impulse is yet imperceptible; <i>the first sound is again audible to day;</i> the second distinct and clear.	Wine 10 oz.; draught of muriate of morphia; beef tea
„ 8.	Did not rave at all; slept almost the whole night; countenance much more animated; speaks quite rationally; bowels moved twice, fæces assuming their natural form; tongue cleaning and moist; but little thirst; <i>he did not get the morphia;</i> petechiæ quite gone.	Pulse 80, of good strength; the impulse is perceptible; the first sound stronger today, giving less predominance to the second.	Wine 5 oz.; arrow root diet.
„ 9.	Slept very well; did not rave; says he could eat a bit of bread if he had it; bowels much improved; two motions yesterday; is much better.	Pulse 80, and of good strength; impulse perceptible; there is very little difference between the sounds of the heart.	Continue wine 5 oz. Has had wine 5 oz., and beef-tea daily since last report.
„ 13.	Convalescent.	Pulse 76, natural.	

This case is principally interesting from the complete disappearance of the first sound of the heart for at least forty-

eight hours ; the coming down of the pulse under wine preceded the return of the first sound and the impulse : throughout the whole of this case the second sound continued remarkably clear.

The exhibition of wine was delayed too long in this case ; we were misled by the absence of petechiæ on the eighth day ; they did not appear till the tenth day, an unusually late period.

The next case is remarkable for its presenting the peculiar cardiac phenomena in fever, with a singular slowness of the pulse during the disease, and also in the convalescence.

CASE XII.—Maculated Fever, with Bronchitis ; Feebleness of the first Sound ; Slowness of Pulse ; free Use of Wine ; Recovery.

Richard Edwards, æt. 26 ; admitted into hospital on 8th June, ten days ill ; the petechiæ are very plentiful and of healthy colour ; countenance much depressed ; tongue very thickly coated ; great thirst ; did not sleep well last night, but was continually raving ; complains of irritation in his throat, which is not inflamed ; great oppression in his breathing ; acute bronchitis in left lung ; cough troublesome ; expectoration viscid ; abdomen full and tympanitic, but without pain on pressure ; impulse of the heart is perceptible ; the sounds are very weak, and the second predominates over the first ; pulse 84, feeble ; bowels free ; respirations 48. To be cupped freely between the shoulders ; blister to the sternum ; senega mixture, wine viii. oz.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
June 10.	Raved a good deal last night ; countenance anxious ; conjunctivæ infected ; tongue much coated ; no headach ; cough not very troublesome ; expectoration viscid and scanty ; Respirations 48 ; bronchi-	Pulse 80, small and compressible ; the first sound of the heart is so feeble as to be almost inaudible ; the second is very clear ; impulse just perceptible.	Wine 24 oz. ; repeat mixture ; blister over the heart in the evening, if necessary.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
	tis in both lungs ; more severe in the left ; bowels rather too free ; evacuations thin and watery ; extremities warm.		
June 11.	Passed a good night ; the blister was applied yesterday evening ; is very weak this morning ; countenance expressive of great anxiety ; tongue coated ; breathes easier ; coughs less ; expectoration profuse and thick ; respirations 40 ; is not purged, but passed 2 thin watery stools.	Pulse 80, feeble ; we could not examine the state of the heart in consequence of the blistered surface being very painful.	Wine 24 oz. ; repeat mixture.
„ 12.	Countenance much improved this morning ; breathes easily ; bronchitis better ; did not rave ; bowels moved three times ; character of stools somewhat better ; respirations 36 ; expectoration not so profuse ; coughs much less.	Pulse 80, feeble ; the impulse of the heart is perceptible ; the second sound is still loudest.	Wine 16 oz. ; repeat mixture.
„ 13.	Countenance considerably improved, and he is much better this morning in every respect ; sputa profuse again to-day ; does not complain of much thirst ; respirations 26.	Pulse 80, and fuller ; impulse and sounds as last report.	Wine 12 oz.,
„ 14.	Slept very well ; petechiæ fading ; tongue cleaning and moist ; bronchitis much better.	Pulse 68, and of good strength ; impulse of heart perceptible ; sounds improving ; the second yet predominates.	Wine 12 oz.
„ 15.	Countenance more animated ; voice stronger ; very little expectoration ; bronchitic rales are still loud ; bowels regular ; no petechiæ.	Pulse 60, soft and compressible ; the first sound of the heart much improved in strength, giving little predominance to the second.	Wine 12 oz. ; bark mixture.
„ 16.	Bronchitis rapidly improving ; respirations natural ; converses rationally.	Pulse 60 ; impulse of heart very feeble ; the 2nd sound still predominates.	Wine 6 oz.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
June 17.	Expectoration is scanty, and tinged slightly with blood; on carefully examining the chest, no signs of pneumonia can be discovered; and the bronchitis is much less intense.	Pulse 54, stronger; impulse and sounds as last report.	Wine 6 oz.
„ 18.	Sputa free from admixture with blood; is considerably better; appetite good.	Pulse 56, regular; impulse perceptible; and the sounds of the heart are once more proportionate.	Wine 6 oz.
„ 19.	Passed a very good night; tongue clean; no cough; bowels regular; skin cool.	Pulse 52; strong; phenomena of heart natural.	Wine 6 oz.
„ 20.	As last report.	Pulse 46, and strong.	Wine 6 oz.
„ 21.	Quite convalescent.	Pulse 44, and of exceedingly good strength.	Wine 6 oz.
„ 22.	He was out of bed for the greater part of yesterday, and bore the exertion well.	Pulse 44; on walking across the ward and back again, the pulse rose to 60.	Mutton chop.

We have now recorded two cases, in which the phenomena in question coincided with a very slow action of the heart, and in which the pulse during convalescence became singularly diminished in frequency. To this I would particularly direct the attention of my readers, as it bears on a very important practical point, namely, the cause of the anormal conditions of the pulse in the convalescence of fevers.

In my remarks on the third case, (see page 19,) I have alluded to the opinion of Laennec, who, after describing the softened state of the heart in putrid fevers, inquires whether this condition could account for the frequency of pulse which exists, sometimes for several weeks, in convalescence from fevers, although the patient continues to regain flesh and vigour.*

* Laennec, Art. Softening of the Heart.—See Dr. Forbes' Translation.

If the phenomena now described are connected with a softened state of the heart, it will appear that our experience in this matter is opposed to the idea above quoted. It will be observed that in most of the cases the pulse came down to its ordinary rate, and did not exhibit any unusual frequency during convalescence ; and that in several, and in two particularly, the pulse in convalescence fell far below its usual standard. And with respect to the frequency of pulse in convalescence, alluded to by Laennec, my experience at present is, that it is more likely to occur after fevers of a *non-putrid* character ; and that it often points out the existence of some local irritation, or a tendency to it. Future observations must settle this point.

I might add several other cases presenting analogous phenomena, but refrain from doing so, as they do not exhibit any features different from those already described.

It will be seen that, in all the preceding cases, the modifications of the heart's action was either the diminution or obliteration of the first sound, or the equable diminution of both, so as to produce the foetal character : but there is another modification, which, though of rare occurrence, is most interesting : in this we find the *first sound preponderates*. Of this variety but two cases have been observed : the first occurred in my own practice, and the second was of a patient treated by Dr. Graves, for the history of which I am indebted to one of our most accurate observers, Mr. William M. Murphy.

CASE XIII.—*Petechial Fever, with Bronchitis and Diarrhœa ; vigorous Action of the Heart up to the ninth Day ; Preponderance of the first Sound on the sixteenth Day ; Use of Wine ; Recovery.*

Thomas Keefe, æt. 30, a strong muscular man, was admitted on the 11th May, being then nine days ill ; he was abundantly maculated ; well marked bronchitic rales in both lungs ; the action of the heart was vigorous, and both the sounds natural ; pulse 108, full. The chest was cupped and blistered, and pills of blue pill and ipecacuanha exhibited.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
May 13.	Severe diarrhœa.	Pulse strong ; both sounds are distinct and proportionate, but they seem as if distant.	Omit the pills ; poultices to the abdomen.
„ 14.	The diarrhœa continues ; maculæ abundant and florid.	Sounds of the heart more feeble ; the impulse is imperceptible except at the termination of expiration ; pulse 100, strong.	Saline mixture ; arrow root.
„ 15.	The bronchitis is more severe.	Impulse quite imperceptible ; both sounds feeble but distinct ; pulse 100, feeble.	Wine 6 oz. ; dry cupping ; blister to the chest ; pills of ipecacuan. hyosciamus, and carb. ammonia.
„ 16.	Pupils contracted ; bronchitis continues ; tongue glazed and red.	Impulse imperceptible ; sounds as before ; pulse 92, a shade stronger than yesterday.	Wine 12 oz. ; beef tea ; antimonial mixture, with 3 grains of tart. emet.
„ 17.	Some diarrhœa ; no vomiting ; bronchitis diminished ; the petechiæ are not more livid ; pupils less contracted ; tongue improving, becoming moist and pale at the edges ; the wine was given warm.	Impulse again perceptible ; pulse 82 ; both sounds of the heart can be heard.	Wine 10 oz. ; senega mixture ; musk and camphor pills.
„ 18.	Tongue improving ; petechiæ fading.	Sounds of the heart not so distinct as yesterday ; <i>the second can scarcely be heard</i> ; impulse perceptible.	Repeat all.
„ 19.	Slept well : diarrhœa continues.	Sounds as yesterday ; impulse imperceptible.	Wine 10 oz. ; blister to the heart ; bark mixture.
„ 21.	General improvement ; slept well ; perspiration.	<i>Both sounds can now be heard ; they are feeble but proportionate</i> ; impulse imperceptible ; pulse 72.	Wine 8 oz. ; repeat the mixture.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
May 22.	Improvement continues.	The sounds over the right cavities are proportionate ; <i>over the left the first is much more feeble than the second</i> ; no impulse.	Repeat all.
„ 23.	Skin cool ; appetite good ; no bronchial rales. Convalescent.	First sound much more distinct ; impulse plainly perceptible ; pulse 72.	Wine 4 oz.

CASE XIV.—*Petechial Typhus with Palpitation of the Heart and Bronchitis ; Preponderance of the first Sound of the Heart ; Recovery.*

William Hawkins, æt. 34, tall, not very robust ; admitted into hospital October 18th, 1838 ; eleven days ill. Illness commenced after exposure to a draught of air, by rigors, succeeded by heat, &c., also by violent palpitations of the heart, which he says lasted for seven days. On admission the pulse was intermitting, there was a strong action of the heart, but it was also intermitting.

19th, (twelfth day). Abundantly maculated, severe head-ach, impulse of the heart feeble, no intermission of sounds. *First preponderates considerably, most marked at the sternum* ; abdomen tympanitic ; he is constipated ; a blister was applied to the abdomen ; camphor mixture, chalk mixture, and rhubarb wine ordered, and a turpentine enema ; the pulse was regular 100.

20th, (thirteenth day). The pulse was 104, stronger but intermitting ; no impulse ; the sounds more feeble, and intermitting synchronously with the pulse, *first preponderating considerably* ; bronchitis in both lungs ; was cupped, blistered, and ordered 5 grs. of hydrarg. c. cret. every fourth hour. Was visited in the evening, and the pulse and heart were regular. The bronchitis became very severe, for which he was re-

peatedly blistered, and the mercury pushed to slight salivation ; the pulse and heart continued without intermission, *but the first sound preponderated all through.*

On the 24th, (seventeenth day of illness), he got 6 oz. of wine. On the 28th, (twenty-first day), the pulse was 64 ; no impulse of heart, the sounds became proportionate. On November 4, (twenty-ninth day), the impulse was felt, sounds proportionate, pulse 64.

November 12th. Left the hospital quite well.

We have thus two cases in which the first sound preponderated. In the first this peculiarity was not observed until the sixteenth day ; while in the second it was recognized on admission, (the ninth day,) and the sounds did not become natural until after the twenty-first. In this case it will be observed, that the pulse was intermitting, and that the patient complained of palpitation from an early period of the fever.

Let us now examine the results of dissection in a few cases in which feebleness of the heart's action was recognized.

CASE XV.—*Severe maculated Typhus complicated with intense Bronchitis ; Gastritis ; Perspiration on the 13th ; Employment of Wine ; Death.*

John Harris, of full plethoric habit, had always enjoyed good health, and although in the habit of taking whiskey, never drank to excess ; has had fever for six days ; his chest and arms are covered with well-defined bright red petechiæ, complains of much pain in the head and dimness of sight ; tongue furred, epigastrium very tender on pressure, bowels constipated ; passes small quantity of urine ; pulse 96, and full ; respirations 28 ; some wheezing and sibilant ronchi are heard in anterior portion of lungs, face very much flushed. He was ordered efferv. draughts.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
June 8.	Presents the same appearance as yesterday; slept badly; bowels relieved.	Pulse 96.	Wine 6 oz.
9.	Has had another bad night; is very restless; countenance flushed.	Sounds of the heart very feeble; pulse small and compressible, 96.	Continue wine.
10.	Better night than he has yet had.	Pulse much stronger and fuller, 104, and by no means so compressible; sounds of heart a shade stronger than yesterday.	Continue wine.
12.	Did not sleep so well as on the previous night; extreme debility.	Pulse 116; sounds of the heart precisely resemble those of the fœtus in utero.	To have a glass of hot punch immediately; wine 12 oz.; blister between the shoulders and terebinthinate enema.

From this period the patient got worse. The bronchial disease became intense and general, so much so that it was hardly possible to make any accurate observation of the sounds of the heart; the impulse, however, was imperceptible; the pulse became intermitting, and increased in frequency to 120, and on the next day to 136. He died on the following day, the seventeenth of his disease. On the sixteenth day his extremities were cold. In this case active stimulation was employed. The patient got nearly eighty ounces of wine; he was dry-cupped and blistered, and used emetics, from which he experienced great relief three days before his death.

Post Mortem, eleven Hours after Death.—The heart is of its natural size, livid, and feels extremely soft, pitting on pressure, particularly over the left ventricle; some white patches may be seen on the right ventricle; the lining membrane of the left auricle presents nothing remarkable; the left ventricle was

divided from its base to apex ; the muscular substance presents a very singular appearance, not a trace of fibre being visible ; and for more than two-thirds of its length, a layer presenting a darker colour and of more homogeneous appearance, of one-eighth of an inch in thickness, was found ; into this layer it is very difficult to trace the muscular fibre. The substance of the ventricle is infiltrated with a gummy matter, causing the fingers to stick together ; the structure has some resemblance to the cortical structure of the kidneys ; a transverse section gave the same appearance. The net-work of fleshy fibres exhibits more firmness, though analogous in condition ; the posterior columns seem but little altered, being only pale, their firmness remaining perfect ; the same may be said with respect to the anterior ; the right ventricle is harder and firmer, and does not exhibit the same aspect as the left ; the auricle of the same side contains a coagulum ; nothing remarkable in the colour and appearance of the membrane ; the septum cordis presents the same appearance as the left side. On examining the abdomen, nothing abnormal presented itself. The ileum is perfectly healthy ; no enlargement of the glands.

CASE XVI.—Maculated Typhus with severe Nervous Symptoms ; Predominance of the second Sound on the sixth Day ; complete Absence of the first Sound on the tenth Day ; Death ; softened State of Heart ; Ulceration of the Ileum.

Richard Cashel, æt. 46, admitted 5th November ; six days ill ; he complains of pain in back, neck, and extremities ; considerable prostration ; maculæ abundant, of light colour on chest and abdomen, but much darker on back ; slept very little last night ; raved a good deal, but was not violent ; has no headach ; pupils slightly contracted ; very little cough unaccompanied by expectoration ; stools thin and watery ; abdomen soft and tender on pressure ; great thirst ; tongue brown and dry in centre ; teeth covered with sordes ; pulse 116, rather feeble ; respirations 28 ; auscultation detects slight bronchitis

in both lungs; while the patient lies on his back the impulse of the heart cannot be felt, but becomes perceptible when he turns on his left side; both sounds are audible, and the second predominates slightly over the first; ordered an anodyne enema.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
Nov. 7.	Raved much; skin hot and dry; maculæ dark; respirations 28.	Pulse 116, as yesterday; the impulse of the heart cannot be felt to-day; sounds more feeble than yesterday, scarcely audible above the mamma, and to the left; more so at the sternum; the second preponderates.	Repeat wine, 8 oz.
„ 8.	No raving; extreme prostration; considerable fœtor from body; maculæ very dark coloured; sordes on teeth and tongue excessive; is unable to raise himself without assistance.	Pulse exceedingly feeble and irregular, being from about 116 to 124; no impulse of heart; sounds very feeble, almost inaudible to the right of nipple; the second is still loudest.	Wine 16 oz.; beef tea.
„ 9.	Was very restless all night; picking at the bed-clothes, and muttering constantly; passes his water under him; lies on his side; maculæ very abundant, and quite livid on the back.	Pulse 120, exceedingly feeble, obliterated on the slightest pressure; when lying on his left side the impulse could then be felt, but on turning on his back it was felt to be vigorous; <i>the double sound of the heart was completely lost, the distinct clear "rap" of the second alone being heard; most distinct also at the base of heart.</i>	Wine 20 oz.; brandy 2 oz.
„ 10.	Lies on his back; mouth wide open; constant spasm of the muscles of lower jaw; constant moaning; <i>is in profuse perspiration</i> ; excessive fœtor from body; respiration 40; stools involuntary. Died at one o'clock, P.M.	Pulse 150, exceedingly weak and irregular; impulse of heart evident and pretty strong; in consequence of his moaning, no accurate accounts of the sounds could be taken.	

Dissection, twenty Hours after Death.—The body was more than usually livid ; the petechiæ were pale on the fore-part of the body, but very dark and livid on the back ; abdomen tympanitic ; the pericardium contained about half a pint of straw-coloured serum ; the heart was of large size, and so extremely flabby, that it was capable of retaining any shape in which we placed it ; the *right cavities* were softer than natural, admitting the fingers through their walls without much resistance ; in the muscular structure of the left cavities, however, this change was much more remarkable ; the weight of the finger was almost sufficient to penetrate its walls, they were so exceedingly softened ; it is very easily torn, and the edges thus separated have no longer the moistened appearance, but seem as if quite dry. The septum cordis was equally softened ; there was some dark fluid blood in the right cavities. The stomach presented some red patches, slightly elevated ; towards the pylorus, the mucous membrane was thickened and softened, and was easily removed by the handle of the scalpel. The duodenum was tolerably healthy, having only in two or three places slight blushes of inflammation. The ileum was more extensively involved ; this was particularly observable in the last two feet of its length, near to the ileo-cæcal valve : there were five ulcerated points ; the superficies of the ulcers were covered by a delicate membrane, beneath which there was a yellow-coloured fluid, resembling pus ; the largest was about the size of a silver penny : round these infiltrated points the intestine was much inflamed, and several minutely injected capillaries were seen ramifying around these points, but they could not, even by the aid of a good lens, be traced into the ulcers ; when the membrane was removed under water, and the puriform matter washed off, a decided depression was left, at the bottom of which was easily seen the muscular coat of the intestine : dispersed further throughout the intestine were several of the elliptical patches. The glandulæ aggregatæ were very prominent in many places.

The general type of fever in this case did not at first seem worse than in many others in which recovery took place. But the patient had been greatly exhausted before admission by hypercatharsis, induced by two enormous doses of castor oil which he took on the second and fourth days of his disease. This circumstance is not unfrequently met with in our wards; and I do not know a worse preparation for the struggle in the advanced stage of typhus than over purging in the commencement. The medicine commonly employed is glauher salts, in a very large dose; this is taken independent of any medical advice, and in several cases the ulceration of the intestines seems to have been promoted by its action.

The pulse in Cashel's case rose from 116 to 150, *under the use of wine*. This and the extreme foetor of the body led to the worst prognosis.

In the phenomena of circulation, the most interesting point is, that while the first sound was absent, *the impulse continued*. *On the day of his death the impulse was very evident, and yet we found a softened left ventricle*. We shall see that the diminution or cessation of the first sound, and of the impulse, are not always coexistent. It is hardly necessary to observe on the difference between these phenomena and those in the case in which wine was successfully employed. On two occasions we were forced to omit the wine, and ultimately we abandoned its use.

In this case, also, the peculiar diminution of the first sound was not observed until the day before death; and on the previous day, (two days before death,) the impulse and sounds were strong. I conceive that the morbid change in the left ventricle did not occur in this patient so early, or to the same extent, as in other cases.

In observing on the cases of Cavanagh and Smyth, (see page 26,) I have stated that we had not yet recorded any instance in which the alteration of the first sound was accompanied with or preceded by signs of irritation. In this case, however, and in that communicated by Mr. Murphy, *where the first sound pre-*

dominated, the symptom of irregularity of the heart existed ; and in Mr. Murphy's case there was pain. How far these circumstances indicated inflammation we cannot now determine ; but it must be remarked, that the effect of wine was totally different in the two cases.

CASE XVII.—*Severe maculated Typhus, with cerebral Irritation, and great Prostration ; Diminution of the first Sound of the Heart on the Day before Death ; Use of Wine ; Death on the nineteenth Day.*

Catherine Murphy, æt. 30, of good constitution ; six days ill on the 10th of June. She complains of pain of the forehead and temples, for which she was leeches, without relief. The petechiæ are abundant, and very livid ; no thoracic complaint ; has much abdominal tenderness, and diarrhœa. Was ordered six leeches behind the ears.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
June 11.	Tongue furred, and dry ; purging still continues ; respirations 44.	Pulse 120, feeble ; impulse of the heart perceptible ; both sounds of the heart proportionate.	Wine 4 oz. arrow root.
„ 12.	Had a restless night ; passes her urine involuntarily, and is much weaker than yesterday ; pain of forehead and temples continues ; respirations 32.	Pulse 120 ; sounds of the heart louder than yesterday.	Wine 12 oz.
„ 13.	Raved a good deal last night ; <i>after having taken eight ounces of wine, pulse rose to 130, and was very small</i> ; has no purging ; tongue coated, and dry.	Pulse 130, very feeble ; sounds of the heart proportionate, but feebler than yesterday ; impulse scarcely perceptible.	Blister applied over the sternum ; continue wine as yesterday.
„ 14.	The blister was applied yesterday, but in consequence of her changing the position so very frequently, it did not rise ; the acetate of cantharides was then used, and proved efficacious ; very low ; respirations 32.	Pulse so irregular, that it cannot be counted ; impulse not perceptible ; sounds of heart as yesterday.	Wine 24 oz.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
June 15.	Raved all night ; does not pass her water under her, but gets up whenever it is necessary.	Pulse 124, and full ; impulse and sounds of the heart as yesterday.	Continue treatment.
„ 16.	Did not rave last night ; the wine produced so much excitement yesterday afternoon, that it was found necessary to stop its further exhibition.	Pulse 112.	Wine 12 oz.
„ 17.	Was again obliged to stop the wine, after taking eight ounces ; bowels regular ; tongue cleaning.	Pulse 100 ; impulse of the heart again perceptible, and the sounds proportionate and stronger.	Omit wine ; beef tea.
„ 18.	Raving and moaning throughout the night ; respirations easy and natural.	Pulse 104 ; impulse and sounds of the heart as yesterday.	Anodyne draught.
„ 19.	Raving all night ; on pressing the larynx, she complains of pain, but will not allow an examination.	Pulse 120, and full.	Anodyne enema ; flannel waistcoat.
„ 20.	Did not rave last night ; sacrum very sore ; pupils contracted ; allowed her throat to be examined this morning, when several diphtheritic patches were seen.	Pulse 130, and very feeble.	The strong muriatic acid to be applied to the throat ; blister to neck.
„ 22.	Extreme prostration, but is perfectly sensible ; voice much clearer than yesterday ; respirations 40.	Pulse 120 ; heart's action morbidly excited ; sounds proportionate.	Decoct. cinchon. 6 oz. ; tinct. cinchon. 3 oz. ; sumat $\frac{3}{4}$ i. secundis horis ; porter one pt. and beef tea.
„ 23.	Is still sensible ; countenance expressive of great anxiety ; is very low ; moaning, and tossing her arms about considerably ; respirations hurried, 64 ; teeth thickly covered with brown sordes.	The first sound of the heart is scarcely audible, while the second is distinct and clear ; pulse extremely feeble, and so irregular, that it cannot be counted.	As yesterday.
„ 24.	Died at half-past one.		

Dissection twenty Hours after Death.—The body presented an unusually livid appearance. On the abdomen were observed numberless minute vesicles, and on the sacrum there was a large sloughing sore. The muscular structure was firm and healthy. On opening the chest the lungs presented a healthy appearance ; posteriorly they were rather congested, but this seemed to be the result of gravitation of blood. The pleuræ were not adherent. On slitting up the pericardium it was found to contain about half a pint of straw-coloured fluid ; the covering itself seemed healthy. The heart was of small size ; the muscular structure of the left ventricle was softened, but not to the same extent as in the preceding cases ; on cutting into it, the fibres were perceptible, but they presented nevertheless a rather homogeneous appearance, and a peculiar glairy semi-gelatinous fluid was found between them ; there was no valvular disease. The intestines were bound down by old adhesions, and were free from ulceration ; the smaller were much congested and softened.

The circumstances worthy of remark in this case are, that wine did not agree with the patient, and that the phenomena of the heart were very different from those detailed in most of the preceding cases. Under the use of wine, the pulse rose from 120 to 130, and then became exceedingly irregular ; it next fell to 124, and was full ; it continued to diminish in frequency ; again increased, and became irregular. Its rate was as follows :

Seventh day, 120.

Eighth day, 120.

Ninth day, 130.

Tenth day, irregularity so great that it could not be counted.

Eleventh day, 124.

Twelfth day, 112.

Thirteenth day, 100.

Fourteenth day, 104.

Fifteenth day, 120.

Sixteenth day, 130.

Seventeenth day, 120.

Eighteenth day, irregularity as before.

CASE XVIII.—*Petechial Typhus, with severe nervous and catarrhal Symptoms ; great Feebleness of the Heart on the twelfth Day ; Use of Wine ; vigorous Action of the Heart for four Days before Death.*

Eliza Bourke, æt. 35, admitted on the 7th March, the eleventh day of fever. On admission she was delirious ; in a state of great collapse, with cold extremities, and miserable pulse. She was given 4 oz. of wine, and artificial heat applied to the feet ; during the night she never ceased howling and screaming ; lies on the back in an extreme state of prostration, raving immoderately, moaning, and sometimes screaming aloud. Countenance flushed, wild, and ferocious ; eyes suffused ; pupils natural ; sordes on teeth and lips ; she points to the head as the seat of much distress ; thirst urgent ; skin hot, dry, and covered with livid coloured petechiæ, evidently on the decline ; tongue fissured and brown ; pulse 136, small and weak ; respirations 40, laboured and interrupted ; intense general bronchitis ; impulse of the heart imperceptible ; no accurate observations could be made as to the sounds, from the loudness of the rales.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
March 9.	Thirteenth day of fever ; slept well ; delirium much less ; pupils somewhat contracted ; upper and lower extremities quite cold ; tongue covered with black crust ; respirations 28.	Pulse 140, small and weak but a degree stronger than yesterday ; impulse of heart slightly perceptible ; both sounds can now be heard below the mamma, and are much stronger than yesterday.	Wine 24 oz. ; turpentine enema.
„ 10.	She is more tranquil, but the countenance retains the wild expression ; extremities warm ; respirations 32, laboured.	Pulse 128, much fuller and stronger ; the impulse is much improved, and the heart can be felt pulsating over several square inches ;	Repeat wine ; blister to the head.

DATE.	GENERAL SYMPTOMS.	PHENOMENA OF CIRCULATION.	TREATMENT.
March 11.	After each dose of wine, which has been given mulled, her general appearance became much improved, but the bronchitis is very intense ; and in both lungs, inferiorly, a moist crepitating rale can be heard.	the sounds are louder, and the first sound has increased in strength. <i>No change</i> in impulse and sounds of heart ; pulse 132.	Repeat wine.
„ 12.	Breathing more difficult and laboured ; great wheezing in the throat ; respirations 44 ; and rales in all parts of the chest more sonorous and intense.	The impulse of heart still more perceptible, but its sounds much obscured by the rales.	Repeat wine ; pills of Ipecac. carb. ammon., & hyoscyam.
„ 13.	She is sinking rapidly ; respirations 64 in a minute ; congestion of the lung much increased.	Pulse 124 ; no change of the impulse or sounds of the heart.	Wine 24 oz.
„ 14.	Died.		

There were many circumstances which led us to form a bad prognosis in this case ; I would particularly specify the advanced period of fever at which she was admitted, the violence of the bronchitis, and great rapidity of pulse. Among the secondary diseases of typhus, there are few more dangerous than the bronchial affection, or one that demands the same decision in treatment *in the earlier periods of the case* ; and there can be little doubt that had the chest been relieved by proper means, within the first week of this woman's illness, the chance of recovery would have been much greater.

It will be recollected that the pulse, on the thirteenth day of fever, was 140 ; and that after 24 oz. of wine had been given, it fell to 128 : so far there was evidence that the wine was acting well ; and on the fourteenth and fifteenth days there was an im-

provement in her condition generally. The respirations, however, became more and more difficult, and she sunk with all the symptoms of suffocation.

In the cases detailed in the beginning of this paper, it will be seen that the returning impulse and sounds were accompanied by other and decided marks of improvement; but here we had the action of the heart suddenly becoming less frequent and much more vigorous, with preservation of both sounds, while the catarrhal symptoms were increasing. The heart was not merely restored to its natural standard, so far as impulse and sounds were concerned, *but it was obviously excited*; and this excitement continued for four days before death.

The action of wine upon the heart in typhus may be said to be both sedative and stimulant; sedative in diminishing its frequency, stimulant in restoring its impulse and muscular sounds; but in its favourable action, the vigour of the impulse, and the intensity of the sounds do not pass the limits of health.

There is a point where its stimulating effect should cease, and if this is passed, wine is either useless or injurious.

I have now given such cases as I conceive are sufficient to introduce the subject of the state of the heart in typhous fever to the consideration of the profession. I might add other cases, but they do not elucidate any new point, and I have given the results of the fatal cases.

If we examine authors on the subject of the state of the heart in typhus, we find, that, with the exception of Laennec and Louis, there is but little information given. Laennec does not seem to have examined the point to any extent: and Louis contents himself with recording the state of the heart in a certain number of subjects who died of fever; but in neither author do we find observations on the physical phenomena of the heart during life.

In his chapter on Softening of the Heart, Laennec writes as follows:

“The variety of softening which accompanies idiopathic

fevers does not in general present any change of colour in the heart, or it is attended with a deeper colour than natural, approaching purple ; sometimes, however, it is yellowish. I think it may be compared to that adhesive softness of the other muscles, often observed in these cases, and which is also accompanied by a degree of redness greater than natural. This softening of the heart, as well as the analogous gluey or fishy state of the muscles, is particularly observable in putrid fevers, more especially when these exhibit the phenomena formerly considered as marks of putridity, viz. livid intumescence of the face ; softening of the lips, gums, and internal membrane of the mouth ; black coating on the tongue and gums ; earthy aspect of the skin ; distended abdomen ; and very foetid dejections. I cannot assert that this softening of the heart exists in all kinds of continued fevers, but I have met with it constantly in such cases as I have attended to ; and I have always thought it more marked in proportion as the signs of an alteration in the fluids were more evident. Could it account for that frequency of pulse which exists sometimes for several weeks in convalescence from fevers, although the patient continues to regain flesh and vigour ?”

I shall next quote from Louis—Dr. Bowditch’s translation :

“ The heart had the size, consistence and colour natural to it in half of the cases, or in twenty-three subjects ; rather less frequently, *ceteris paribus*, among those who died between the eighth and twentieth days of disease, than among those who died after this epoch.

“ It had less consistence than natural in twenty-four other subjects. This diminution of consistence was slight in seven cases, and as when in this degree one might consider it less as a morbid state than as a variety of the natural consistence, or as it is called, of its physiological state, I shall not consider these cases in what follows, and thus the number of patients we must examine is reduced to seventeen.

“ The softening of the heart was, moreover, very slight in

two of these cases. But as it was limited to the left side of the organ, we cannot consider it as the result of natural disposition; but there is a still more important reason for this opinion, viz. it happens sometimes, when the softening is considerable, that it is more so at the left than at the right. In the other cases it was universal and very marked, the heart was very flaccid, so that in many cases it had no precise form, but like a wet cloth retained any shape into which it might happen to be placed. Its substance in these cases had very little power of cohesion, was easily torn, and was very easily penetrated by the finger.

“At the same time that it was softened, the heart had less colour than usual in many cases; it was of an onion-peel colour, which varied in intensity, and was generally livid and purplish on its surface as in its substance. The internal face of the ventricles and auricles was, on the contrary, of a deep violet-red colour, which colour sometimes penetrated beyond the lining membrane, and appeared owing to an imbibition of blood, which it resembled more or less in colour.

“When thus softened and pale, the heart had no longer, when cut, the slightly moistened aspect it has generally, but it was, as it were, dry and unpolished, such as we have seen the liver appear in analogous circumstances. Its size was not larger than usual, and it appeared smaller in two cases (Obs. 14, 33), and, therefore, it appears to me, we ought not to consider this as an effect of the softening of the organ, but rather as a natural *disposition* which existed in other patients likewise, in whom the heart presented nothing else remarkable, (Obs. 31, 39, 41).

“Another fact, which it is important to notice is this, viz., that in nearly all the cases of softening, the walls of the ventricles were evidently much less thick than usual, those of the left especially, which were often three lines thick only. And as this diminution of thickness was limited to cases of softening, we must consider it as a morbid affection.

“If these facts are insufficient to enable us to discover the cause of the softening of the heart, at least they exclude the

idea of one of those affections which usually cause a great number of affections, viz., inflammation. For how can we allow that inflammation is the cause of an acute softening accompanied by a diminution of thickness, paleness of colour, and a kind of dryness of the texture which is the seat of it? Such a supposition would truly imply a contradiction, and, as I remarked in relation to the softening of the liver, if we knew any cause of disease exactly the reverse of inflammation it would be proper to refer this softening to it.

“ Other considerations which I have already given in relation to the spleen support these reflections. The walls of the heart, although more or less softened, had never any pus in them, and there was never any inflammation of the pericardium, which would have been the case rather frequently in softening of the heart, had this softening been caused by inflammation. And in opposition to this opinion, we cannot produce cases of pericarditis observed after other acute diseases, inasmuch as softening of the heart was found in two cases out of eight in which there was pericarditis.

“ Moreover, the frequency and severity of the softening were much more marked according as the disease was more early fatal. Thus the heart was softened in nearly half of those patients who died between the eighth and twentieth days of disease, in a third of those who died during the following period, and in a somewhat smaller proportion among those who died afterwards. Besides, in seven cases in which the softening was extreme, not one was relative to individuals who died after the thirtieth day of the disease, and I found

4 out of 17 patients of the first and second series,

3 „ 20 „ third „

“ Hence we see, that whatever was the degree of softening, the proportion of cases in which it took place in the different series of patients was very nearly the same ; and it was like that of the liver and spleen, more serious in those who died early in the disease, than in those who died after the twentieth day, and

we did not find it at its *maximum* in patients belonging to the fourth series. The rapidity of its development showed the extreme violence of the cause to which it was owing in certain cases, and as other lesions of the same kind, it necessarily contributed much to produce death and hasten its arrival.

“ Another fact which seems to me to be not less remarkable than the rapid softening of the heart is this, viz., no similar lesion was found in any other muscular organ; as all the muscles which preside over voluntary motions preserved, amidst the general disorder, the consistence and colour which are natural to them.”*

In these extracts I have given all that has been discovered on the subject; no series of observations on the action of the heart in typhous fever has been published; I have commenced this inquiry, and have sought to derive some important indications of treatment from the existence of the phenomena now described. In the present state of the inquiry I wish it to be understood, that my observations are to be taken as referring principally to the epidemic of last year. Further researches must be made to establish how far they may be applicable to typhus in general; but I have little doubt from studying the researches of Louis, and connecting the facts relative to the anatomical state of the heart, with those now observed as to its vital phenomena, that my observations will be found to have a very extensive application.

The epidemic of last year was marked by all the signs of putridity. Dark coloured and abundant petechiæ; sordes of the mouth, foetor of the surface, extreme prostration, and stupor, were the prominent features of the disease; and in many cases bronchial and gastro-enteric irritation existed to a great degree.

In many of the cases the bad symptoms were developed at an unusually early period, yet though recovery by crisis was by no means common, the convalescence was generally satis-

■ Louis. Bowditch's translation.

factory, and the ultimate restoration to health complete. In several instances the disease was traceable to contagion.

We may thus arrange the cardiac phenomena obtained in our typhous fever :—

1. Impulse and sounds remaining unaltered ; the action of the heart corresponding with that of the pulse.

2. Vigorous impulse, with distinct and proportionate sounds, with absence of pulse for many days.

3. Diminution of both sounds of the heart, with absence of great diminution of the impulse, (foetal character).

4. Diminution of the first sound ; with cessation or great feebleness of the impulse.

5. Complete extinction of the first sound, the second remaining clear.

6. Predominance of the first sound, the second being extremely feeble.

Of these the fourth and fifth were the most common.

I have before remarked, that in the progress of a single case we may observe first one and then another of these groups of signs. Thus in the second case, (see page 11,) the sounds on the seventh day were proportionate, but so much diminished as to resemble those of the foetal heart. On the eighth day this character was lost, and both sounds were much louder, with returning impulse ; while on the eleventh the second greatly preponderated. Nearly the same phenomena were observed in the third case, (see page 15,) and in the sixth, (page 24.) In the case of T. Keefe the second sound was most distinct in the early periods of the case, while the first became predominant towards its close.

In the great majority of cases, however, the phenomena were as follows :—

I. Diminished impulse.

II. Diminished first sound, particularly of the left cavities.

With respect to the impulse we arrived at some unexpected results. In most cases, considered through the whole progress,

the diminution and return of the first sound were accompanied with the diminution and return of the impulse. So far the phenomena were what we might expect. *But in some instances, at particular periods of the case, this accordance between the impulse and sound did not exist.* In the second case, (page 9,) the sounds became distinct before the impulse returned. In the third case, (see page 12,) the impulse became distinct on the eleventh day, while the second sound greatly predominated. In the third, (page 15,) we found that on the eighth day the sounds were not in proportion to the impulse; and on the tenth, the impulse continued, but the first sound was totally absent. On the next day no impulse could be felt, yet the first sound was feebly audible. In the fourth case, (page 19,) the impulse on the twelfth day was less perceptible than on the day previous, but the first sound had more strength.

It is difficult, or impossible, in the present stage of the inquiry, to offer any satisfactory explanation of these apparent anomalies; but it seems certain, that under the influence of the typhoid condition, the heart may have sufficient force to give an impulse with little or no sound, on the one hand; and on the other, its contractions may be accompanied by a sound, although the impulse be absent. Whether we are to explain these facts by referring to particular states of innervation of the heart, or to organic alteration in the muscular fibres, or their connecting cellular membrane, is still to be determined.

My friend Mr. Hopper has suggested, that, if there be any anormal liquid secretion between the muscular fibres, the production of sound might be materially interfered with, though the muscle might contract with a certain degree of vigour. In two of our fatal cases, we found that there did exist a liquid tenacious secretion in the fibres of the left ventricle; and it becomes a question, whether the softening of the heart in typhus is dependent on an alteration of the muscle itself, or an infiltration between its fibres. Analogy would lead us to conclude, that in the early stages of the alteration at least, the fibre itself

is but little affected ; and the fact of the rapid restoration of the functions of the organ, in the convalescence of fevers, and the occasional excitement of the heart before death, seem to point out, that *in such cases* the injury of the muscular fibre itself has not proceeded very far.

That the cause of the want of impulse, and feebleness or cessation of the first sound, is a softening of the heart, I have no doubt. The evidences in favour of this opinion may be thus stated :—

I. That softening of the heart exists in typhous fever as a local disease, and without any analogous condition of the muscles of voluntary life.

II. That in our dissections in the last epidemic, we met with this softening of the heart, in cases which during life had presented the phenomena in question.

III. That the physical signs indicate a debility of the left ventricle principally, and it is this position of the organ which is most often altered in consistence.

IV. Laennec has stated, that in proportion to the severity of the putrescent phenomena, is the liability to softening of the heart. And the same observation is found to be true of the physical signs now described.

If this softening of the heart be one of the secondary diseases of typhus, we should, as in the case of other lesions, observe something like periodicity in its phenomena. It should appear at a certain time, and decline after its proper period had expired. I have analysed my cases with a view to these points, and the result is, that in most instances the signs of diminished impulse and first sound were developed at or about the sixth day, and the heart seemed again healthy at or about the fourteenth day. It is difficult to determine the period of the first development of the signs in many cases, as they existed on the admission of the patient, but still taking in these cases the dates of the disappearance of the signs, we get the following general results :—

Average date of appearance, sixth day.

„ date of cessation, fourteenth day.

One case has been excluded from this analysis ; the patient was admitted on the tenth day, and the heart was not reported healthy till the twentieth.

We thus get, as the duration of the phenomena, a period of about eight days. It is very probable, however, that the disease begins to be developed before the sixth, and that it subsides before the fourteenth day ; for, as physical signs are our only means of detecting it, it is not likely that they would be well marked in its very first development, or indicate exactly the time of its subsidence.

In the softened condition of the ventricle, particularly the left, we have the explanation of the diminished impulse and first sound, and a new evidence of the truth of the theory which attributes the first sound to the ventricular contraction ; and the theory which explains the second sound by the reaction of the arterial column of blood on the semilunar valves, receives also from these facts an additional though indirect verification. With respect to the second sound, we must consider it in two sets of cases : first, where both sounds were equally diminished, and secondly, where the first greatly predominated. The phenomena of the first class might seem explicable, by referring to the diminished vigour of the ventricular systole and diastole, which would affect the physical relations of the arterial column, as noticed in the Report of the London Committee of the British Association, communicated at the meeting of 1837 ; but when we find, in many cases, that the first sound became greatly diminished, or even extinct, while the second remained clear, we encounter a difficulty. In the second class of cases, of which I have recorded but two examples, we have no means of explanation, unless by assuming that there existed a diminished resiliency of the arterial trunks.

I am decidedly of opinion, that we cannot consider the softening of the heart in typhus as the result of carditis ; it

seems rather to be one of that class of affections not yet sufficiently examined, in which an infiltration of some peculiar substance takes place under the influence of the typhoid condition.* This occurring in the heart seems to impair its functions to a great degree ; but the rapid restoration of the heart to health points out that the disease has not materially impaired its organic condition. It is obvious that we can never meet with the affection in a very advanced condition, for death by syncope would occur after the contractility of the heart had been altered up to a certain point.

Finally, I would draw the particular attention of my readers to the fact, that in the great majority of these cases the use of wine was followed by the happiest effects. I may safely refer to the cases in proof of this proposition ; *and I believe that in the diminished impulse, and in the feebleness or extinction of the first sound, we have a new, direct, and important indication for the use of wine in typhous fever.* In some cases the existence of these phenomena at an early period of the disease, led us to anticipate the bad symptoms, and to commence in good time the use of the great remedy ; and in others, notwithstanding the existence of severe visceral irritations, the use of stimulants has been adopted with the best success, from the same indication.

It will be seen that the quantity of wine employed in the foregoing cases was considerable. I shall exhibit in the following table the quantity given, the day on which its exhibition was commenced, and the period of the fever, as nearly as we could calculate it.

* On this point it will be seen that I adopt, with respect to the heart, the views which Dr. Staberoh, of Berlin, has put forward with reference to the follicular disease of the intestines in typhus. See his paper, Dublin Medical Journal, vol. xiii.

NAME.	QUANTITY OF WINE.	DAY OF COMMENCEMENT OF WINE.	DURATION OF FEVER.
Cavanagh, .	26 ounces.	8th day.	13 days.
Wright, . .	36 "	14th "	22 "
Devereux, . .	42 "	14th "	16 "
M'Kone, . .	60 "	12th "	16 days; wine continued to the 20th day.
Wallace, . .	66 "	11th "	18 days.
Kain, . . .	88 "	9th "	16 "
Smyth, . . .	144 "	10th "	18 "
Edwards, . .	156 "	10th "	20 "
Quin, . . .	158 "	5th "	14 "
Hickey, . .	170 "	7th "	17 "

These cases may serve as illustrating the line of treatment which we adopted in our last typhus. In no epidemic did I ever before give so much wine. I never had such success in treatment. The list might be greatly enlarged, but no advantage could be gained by so doing. One case, however, may be mentioned, in which the whole quantity of stimulants employed was greater than in any of those now detailed. The patient was an elderly woman, who was admitted after having been three weeks ill, in a state of extraordinary prostration. There were no decided petechiæ, and the fever was of a more purely nervous character than is common. The disease ran on to nearly six weeks. The following is the account of the stimulants employed :

Wine, 292 oz.
 Brandy, 20 oz.
 Porter, 7 bottles.
 Ethereal enemata, 2.
 Jelly, beef tea, &c. &c.

Her recovery was perfect.

The form of fever under which this woman laboured has been but rarely observed in our wards : it is characterized by extreme adynamia *unaccompanied by the phenomena of putrescence* ; its duration is much longer than that of the ordinary disease, its termination less critical, and it seems uncompli-

cated with any distinct visceral affection. If any disease deserves the name of a "pure nervous fever," this one does. The disease to which it is most closely allied is the *febris lenta nervosa* of Frank, but it differs in the absence of signs of abdominal irritations.

In this patient the disease ran on to nearly six weeks; the principal symptoms being extraordinary prostration, coldness of the surface, feebleness and irregularity of the heart's action: and it was not until the end of the eighth day of the exhibition of wine, and other stimulants in great quantities, that any favourable influence was produced on the circulation; and the case strongly illustrates the advantage of persisting in the supporting system, although no amendment seems at first to follow its employment.

If, on the one hand, an inflammatory and excited condition is not produced; and if, on the other, the vital powers, though greatly sunk, are preserved from further sinking, we have an indication that stimulants are to be continued in their original, or in increasing doses.

I may now state the conclusions to which we have arrived from our investigations of last year:

1. That the condition of the heart in typhous fever must be determined by the application of the hand and stethoscope, the pulse being an uncertain guide.

2. That a diminished impulse, or a complete absence of impulse, occurs in certain cases of typhous fever.

3. That in such cases we may observe a diminished first sound, or even an absence of the first sound.

4. That both these characters may exist with a distinct pulse.

5. That although in most cases the diminution of the impulse and first sound coexists, yet that impulse may exist without corresponding first sound, and conversely, that the first sound may be heard although unaccompanied by impulse.

6. That these phenomena are most evident as connected with the left side of the heart.

7. That when the impulse and first sound are lessened or lost, the return to the healthy character is observed first over the right cavities.

8. That in some cases both sounds are equally diminished.

9. That in a few cases the first sound preponderates.

10. That these phenomena indicate a debilitated state of the heart.

11. That they may occur at an early period of the disease, and thus enable us accordingly to anticipate the symptoms of general debility.

12. That the existence of these phenomena, in a case of maculated adynamic fever, may be considered as pointing out a softened state of the heart.

13. That this softening of the heart seems to be one of the secondary local lesions of typhus.

14. That the diminution or cessation of impulse, the proportionate diminution of both sounds, or the preponderance of the second sound, are direct and nearly certain indications for the use of wine in fever.

I cannot conclude this paper without bearing testimony to the singular zeal displayed in this investigation, by many gentlemen who fulfilled the duties of clinical clerks during the last year. To Dr. Bovellet, of Barbadoes, and Mr. K. Kowalewski, of Warsaw, I am deeply indebted. And I beg also to mention the names of Messrs. W. M. Murphy, Thomas Moore, James Brady, Thomas Rogers, and W. Barrington, gentlemen whose practical knowledge of medicine, charity to their patients, and devotion to science, have earned for them the respect and admiration of all who were cognizant of their unostentatious exertions and untiring zeal.

ART. II.—*Observations on Professor Hamilton's "Deviations,"*
&c. By ROBERT COLLINS, M.D., late Master of the Dublin
Lying-in Hospital.

A SENSE of duty again forces me to *expose* to my junior professional brethren, the *hasty*, and if *generally* acted upon, *mischievous* measures urged by Professor Hamilton, of Edinburgh, for the *artificial dilatation* of the mouth of the womb within twelve or fourteen hours, and the *actual delivery* of the patient within twenty-four hours from the commencement of labour.

I am led thus, a *third* time, to register the most solemn protest against Professor Hamilton's *unnecessary* and *mischievous intermeddling*, in consequence of a letter published by him in the preceding volume of this Journal ; and I state, without hesitation, that the said letter is one of the most perfect demonstrations of his often-exercised powers of evasion ever offered to public consideration.

When stigmatizing Professor Hamilton's doctrine, regarding the artificial dilatation of the mouth of the womb, in a communication made by me in this Journal, March, 1837, I have given the following quotation from Dr. Hamilton's work : " When the pains take place, if the dilatation proves tedious, that is, if the continuance of *strong pains* for *six* or *eight* hours do not advance the dilatation to such a degree as to give reason to expect its completion within a few pains, *it becomes necessary to interfere* lest the patient's health should suffer." In my second communication, September, 1838, (to which Professor Hamilton *pretends* to reply in the last number of this Journal,) I state the following are Dr. Hamilton's own words, upon the *validity* of which the *key-stone* of his *arch* ideas rests, and which, although inculcated by him for a series of years to some thousand pupils, he complains the practitioners in London, Paris, and Dublin *reject*.

“ MANAGEMENT OF THE FIRST STAGE OF LABOUR.

“ One of the earliest innovations in the treatment of human parturition, which I found good reason to introduce, was the limiting the duration of the first stage of labour to *twelve* or *fourteen* hours, WHENEVER THE UTERINE CONTRACTIONS CONTINUE TO BE REGULAR AND PROGRESSIVE ; and I have stated in my Practical Observations, that the following are the *necessary effects* of the *protraction* of that process *beyond the time specified.*”

In the learned Professor's reply to my *second* communication, he slips back, cautiously, to the Dublin Journal of Medical science, No. XXXI., where my *first* criticisms are published, and gives the first extract which I have supplied above ; shunning his “ innovations,” as set before his eyes in the very glaring manner just recorded, as the *key-stone* upon which his ideas rest. In reference to the passage given in my first article, the Professor now, as he thinks, *cunningly* remarks, “ In this quotation Dr. Collins has left out certain words, and transposed others, which *completely misrepresent* what I have published ; for, firstly, *I do not state* ‘ that the full dilatation of the os uteri should be completed within twelve or fourteen hours from the actual commencement of labour, as the natural efforts can no longer be trusted to ;’ my statement being in the following words: ‘ *If uterine contractions continue regular* the full dilatation of the os uteri should be completed within twelve or fourteen hours, &c.’ This condition, which Dr. Collins has carefully suppressed, changes altogether the proposition which he has thus alleged to be mine.” And it is added, “ for this misrepresentation he can have no excuse.” I ask is it not to Dr. Hamilton's everlasting shame, that I am compelled to thus expose him. Who could read such sleight of hand efforts, without contempt for the writer ?

Have I not proved that the *identical words* were absolutely emblazoned in order to attract notice ; and yet Dr. Hamilton

has had the presumption to accuse me of wilful misrepresentation.*

I have now to expose the Professor's *second* accusation; and in truth it will bear the light badly as the first; but it must be told. The Professor states, "The *second* misrepresentation of Dr. Collins, *in the words quoted*, seems to me still more inexcusable. I allude particularly to the following: 'He (meaning Dr. Hamilton) says, that the patient should almost never be allowed to continue longer (viz. than twenty-four hours) without being delivered.' The following are his own words: 'When the pains take place, if the dilatation proves tedious, that is, if the continuation of strong pains for *six* or *eight* hours do not advance the dilatation to such a degree as to give reason to expect its completion within a few pains, it becomes necessary to interfere, lest the patient's health should suffer.' These words (the Professor adds) have been detached from the sentences which explain them, and afford one of the most perfect specimens on record of a deliberate intention to pervert and misrepresent the doctrines which Dr. Collins has undertaken to controvert."

I would anxiously refer to my *first* communication on this subject in this Journal, March, 1837, page 39, from whence this quotation is *culled*, with Dr. Hamilton's artful tact; it is the *first* sentence in my abstract of his "doctrines," and has reference alone to the *first* stage of labour. The second sentence is, "Since the year 1800, the author has advised his pupils to secure the termination of the first stage of labour within *twelve* or *fourteen* hours from its actual commencement." The *third* sentence is, "Again,

* Doctor Hamilton states, with reference to my *first* extract of his doctrines, that "Dr. Collins has left out certain words, and transposed others, which completely misrepresent what I have published."

This is a *shameless* misrepresentation on the part of the Professor, as I have given the quotation in the *identical* order, and to the very *letter*, as printed in his *Observations*, Part I., page 225.

when treating of LABORIOUS LABOURS, the author feels it incumbent upon him to declare, that when the uterine contractions proceed regularly, without decided interruption ; or when the infant, after the rupture of the membranes, remains in close contact with the passages, the sufferings of the woman should almost never be allowed to continue longer than *twenty-four* hours, reckoning from the beginning of true labour throes."

Could a more deceitful representation of my explanation of the Professor's doctrines be put in print, than this demonstration exhibits? If the *two* latter sentences do not explain the Professor's doctrines to the *very letter*, they *must* have been inserted by "*mistake*"!!! by Doctor Hamilton, in his Observations on Midwifery, Part I. page 195, and Part II. page 42. That the *hasty* and MISCHIEVOUS doctrines given above were REALLY and TRULY the "*innovations and deviations*" INCULCATED by Professor Hamilton, I cannot permit him to *retract*. The following extract, from a letter received by me from Doctor Hamilton, in *explanation** of the doctrines advanced in his work, *proves* without the *possibility* of doubt, that even the hasty measures above recorded, fall *far short* of the *speed* he uses in private, viz., "It appears to me that the only *important* point on which we differ *respects the time* during which, in cases of *laborious labour*, the practitioner should *wait* for the efforts of nature. *According to my solemn conviction that should never exceed from TWO to TEN hours*, and as your experience has led you to believe that the stethoscope unequivocally indicates the death of the infant, if after that event, the pains cease to advance the labour, every hour's delay must add

* Doctor Hamilton states in his letter, that "Doctor Collins referred to the information communicated by him in a *private* letter, on which he has most unceremoniously commented." I totally deny ever having had any private correspondence with Professor Hamilton. I know him solely as an author, and every letter received from him was strictly in *illustration* and *explanation* of his doctrines, as the extracts given amply testify.

to the danger of the patient ; and I cannot help being impressed with the notion, that the cases which you have detailed from page 464 onwards, completely confirm my opinion. I have only to add, that I have never imputed any error in the practice to which I object, to yourself personally, for I have invariably stated, that it is to the modes of practice generally adopted at present in London, Dublin, and Paris, to which my animadversions refer."

Such are my remarks upon two of the charges of wilful misrepresentation with which Doctor Hamilton had the audacity to accuse me, and I leave the impartial reader to detect even a syllable in any of my references to his doctrines not scrupulously in accordance with what he has been endeavouring to inculcate so injuriously for nearly half a century. Truth scorns all kinds of equivocation, and never fears rigid examination. It would have been well for Professor Hamilton had he recollected, that "a goose quill is more dangerous than a lion's claw," before he published "innovations and deviations" so devoid even of the semblance of proofs, and so diametrically opposed to the results of the records of all the largest hospitals in Europe.

The next tale I shall unfold from Professor Hamilton's Letter is told by him at pages 185-6, and I "may" be believed when I solemnly state, that I "never heard tell of, nor ever have seen" a more insufferable and shuffling attempt to *disavow* and *disown* the *very essence* of *every doctrine* he has advanced, on the truly important practical points at issue between us.

Let us examine the wily attempts of the Professor to retract clandestinely *every iota* of what he has advanced on the subject ; and the efforts he makes to create as great a mist as it "may be possible," to prevent his retreat from being discovered. The attempt, however, is miserably paralytic, and unfeelingly depicts his own overthrow. The Professor states,* "Dr. Collins says, page 407 of your Journal, No. 39, two untoward circum-

* See last Number of Journal, pages 185-6.

stances are expressly set forth by Dr. Hamilton, as the necessary effects of the protraction of labour beyond the time specified by him, upon which entirely rests the validity of his reasoning. These constitute the *second* and *third* heads of his doctrines." These five lines the Professor declares contain two misstatements; for firstly, "I enumerate not two, but four, untoward circumstances, as the effects of the protraction of labour beyond a certain period; and secondly, *I do not allege them to be necessary effects.*" The reader will at once judge, (the Professor adds,) for the following are my words.

"Firstly. The powers of the uterus *may*, in the second stages, be inadequate to the expulsion of the infant, with safety to its life, or to the future health of the mother.

"Secondly. After the birth of the infant the uterus *may* contract irregularly, so as to occasion retention of the placenta.

"Thirdly. After the expulsion of the placenta, the contractions of the uterus *may* be too feeble to prevent alarming hæmorrhage.

"Lastly. Supposing the patients to escape all these untoward circumstances, febrile or inflammatory affections of a most dangerous nature *may* ensue, from the previous protraction of pain, and irregular distribution of the blood."

"In all these *four* sentences describing the several consequences of the protraction of labour, *I have used the word MAY*, which, I need scarcely observe, Dr. Johnson defines 'TO BE POSSIBLE.' If the word *must* instead of *may* had been employed, Dr. Collins's inference would have been *correct*; but considering my expressions, he is not warranted to assume, that *I allege the untoward circumstances enumerated to be the NECESSARY effects*, for *I have most particularly declared my opinion to be, that they are the POSSIBLE effects.*"* I ask

* I should have the latter sentences printed in gold, were it not for the dread that the hair of the printer's head "MAY" turn green, as is found "to be possible;" but Dr. Hamilton is not warranted to assume, that I allege this un-

my professional brethren, "may" not the longitude be discovered as readily as it would "be possible" to find a parallel to the Professor's deviations and abjurations of every shadow of his doctrines, as is here shown by his own record? Yet he has not the firmness to declare openly his error; and the unsoundness of the advice he has been giving his pupils since the year 1800. Doctor Hamilton has at the last hour been forced, by absolute demonstration, to reject (I "may" suppose most unwillingly) one and all the doctrines which he has been disseminating for so many years, as the "necessary effects," "the consequences to be dreaded," which "he became quite convinced were the effects,"* or which "his conviction was, that although there be no injurious pressure upon the person of the infant, nor on that of the parent, the protraction of pain from uterine contractions above a certain number of hours, *must!* (may?!) occasion more or less exhaustion, both of the sensorial and of the muscular powers, and *must necessarily!* (may be possible?!) influence the subsequent process of delivery."† What explanation can Professor Hamilton offer in palliation, to his numerous old pupils, of the unsoundness of all his innovations and deviations? In the inglorious abandonment of principle on the part of Doctor Hamilton above registered, he has had the hardihood to charge me with numerous misrepresentations, which the most juvenile observer, on reading my observations, must declare contemptible on his part. Example first: the professor declares, that in five lines I have made two misstatements, by enumerating only two of his untoward circumstances as the effects of the protraction of labour in place of four! at page 407 of this Journal.‡ My object in emblazoning these

toward circumstance to be the necessary effect of this "innovation and deviation" in printing. See *Med. Gaz.*, Nov. 3, 1838.

■ See pages 186-7.

† See First Letter, *Med. Gaz.*, page 7.

‡ The Professor's four untoward circumstances are detailed by me to the very letter, and in the most conspicuous manner possible as the key-stone of his arch-ideas, at page 404. In truth, a more barefaced accusation Dr. Hamilton could not "possibly" pen.

two (now) notorious effects, at page 407, (and which I gave in *italics* as the *second* and *third* heads of his doctrines,) it is well known to Dr. Hamilton, was to exhibit the *artful talent* of the Professor in *culling* cases in support of the doctrines he has now abandoned ; the *exposure* of which unjustifiable selections has made, as I then stated would be the case, a lasting impression on the minds of the medical profession ; and I have no doubt, had considerable influence in producing the Professor's recantation. Did I not, in these remarkable instances,* clearly and fearlessly prove Dr. Hamilton guilty of the astounding fact of culling the *only single instance* which occurred out of 16,414 deliveries, as the recorded support of the "*validity*" of the second head of his new doctrines and new opinions?!! Did I not in like manner convict him in the same memorable record, of the identical same mal-practice, in his selections in proof of the "*validity*" of the third head of his "*innovations and deviations,*" the "*necessity*" of which I at that time regretted, but which has since proved so salutary ?

I should think Dr. Hamilton will not forget the explanation just given of the necessity of my exposing, at page 407, the unwarrantable measures resorted to by him, in support of the second and third heads of his doctrines.

I feel that it is almost a work of supererogation enumerating all the unfounded representations Professor Hamilton may advance, which I need scarcely observe Dr. Johnson defines "to be possible." When we reflect that Professor Hamilton *most particularly declares his opinion to be*, that one and all of the *four* untoward circumstances, *hitherto* inculcated by him as the *necessary effects* of the protraction of labour beyond the term specified in his work, are *now barely* the "*possible effects,*" and that the word "*necessary*" had been inserted by *mistake*, *no further condemnation* of their *unsoundness* can *possibly* be *necessary* on my part.

* See Journal, vol. xiii., page 412.

That it is "*possible*" such occurrences "*may*" take place, I allege is neither an "innovation or deviation," as Professor Hamilton flourishingly published, and endeavoured mightily by false reasoning to establish. I have *proved* that the very cases* *culled* and cited with so much deceit by the Professor, as the only recorded support of his *new doctrines* and *new opinions*, clearly and absolutely *demonstrate* the almost *total improbability* of the untoward circumstances, as set forth by Professor Hamilton, *ever* being met with.

The next assertion which Professor Hamilton makes is without the slightest regard to the *facts* before his eyes; and indeed it is truly an "innovation." He states, "of the other injurious effects of protracted labour which I have stated, viz. the death of the infant, and future organic diseases, and febrile and inflammatory affections of the parent, he has taken no notice, conscious as he *must* be (may be?) that such were really in many cases the consequence of protracted labour, even in the patients of the Dublin Lying-in Hospital." Again, "Dr. Collins, the intelligent reader will see, had good reason for having passed over in silence the first of the untoward circumstances which I have specified, viz. that the powers of the uterus 'may,' (which I need scarcely observe Dr. Johnson defines 'to be possible'?) in the second stage, be inadequate to the expulsion of the infant, with safety to its life, or to the future health of the mother."

How would it be possible to demonstrate more fully the nothingness of such may be! *future organic* and *inflammatory affections*, &c. &c., than the following statements, which I adduced clearly prove, viz.† of 16,414 women delivered, only 164 died, or in the proportion of one in one hundred. *Forty-two* only of the 164 who died were more than *twenty* hours in labour. No fewer than ninety-seven out of the 164 deaths arose from causes not the results of childbirth. That the pro-

* See Dublin Medical Journal, vol. xiii. page 413.

† Ibid. page 406.

portion of children still-born, in consequence of the labour being protracted, is comparatively very small, is proved by the fact, that of 1045 cases accurately noted in our hospital, eight hundred and forty-four were delivered within twelve hours; and nine hundred and thirty-two within twenty-four hours; neither is the death of the child subsequent to birth, except in very few instances, comparatively speaking, a consequence of injury arising from protracted labour, as the result of our hospital demonstrates. Thus of the total number dying (284) previous to the mother leaving the institution, the labour in two hundred and forty-six did not exceed twelve hours.*

In support of the above statement, I have referred to the mortality in the hospital for the four last years of my residence, after puerperal fever disappeared; during which period the vast number *ten thousand seven hundred and eighty-five* deliveries occurred; out of which *fifty-eight* died, which is nearly in the proportion of one in every one hundred and eighty-six; and I have declared, that no artificial interference was attempted to effect the delivery, until the safety of the patient demanded such; from which it must be evident to every impartial mind that I am fully warranted, from the results shewn, in stating my decided conviction of the *unsoundness* of any advice calculated to encourage rashness and unnecessary intermeddling, on the part of the medical attendant. I asked Professor Hamilton did he know, or did he ever hear, of any even distant approach to this favourable and happy result in 10,785 deliveries. This "untoward" interrogatory Dr. Hamilton has good reason for having passed over in silence; as in my same communication I proved† the mortality in the Edinburgh Hospital, in the years 1821 and 1822, (the only years I could fish out the deaths,) to be *one* in *twenty-one*, which is even more frightful than the Paris Hospital; and when we reflect that, according to these calculations, *nine* women died in the

* See Dublin Medical Journal, March 1837, p. 70. † Ibid. vol. xiii., p. 419.

Edinburgh Hospital for every *one* that died in the Dublin Lying-in Hospital under similar circumstances, it is evident Professor Hamilton's "*deviations*" from the ordinary mode, if generally acted upon, would be productive of the most disastrous results. Had the mortality in the Dublin Lying-in Hospital, during my *seven* years' residence, been in the proportion of *one* in *twenty-one*, as was the case in the Edinburgh Hospital in the years 1821 and 1822, we should have had the melancholy duty to perform of detailing the almost incredible number of *seven hundred and eighty-one deaths*, in place of 164, which we had the happiness to be able to communicate; or, in other words, *six hundred and seventeen lives were saved*. Do not the incontrovertible facts just recorded for ever exhibit the visionary spectre from which the Professor has struggled so magnanimously to protect us, in the *first* and *last* heads of his "*doctrines*" to be *similar* imaginary ghosts with those which the light reflected at page 74 disclosed the *second* and *third* to be. I "*may*" attempt, "*which I need scarcely observe, Dr. Johnson defines to be possible,*" to convince Dr. Hamilton still further of the total groundlessness of his accusation against me, of passing over in silence the *first* and *second* of his *un-toward circumstances*; as, in addition to my own condemnation and proofs, I had furnished him with the following deductions from the excellent papers published by Dr. Edward William Murphy and Dr. Churchill.

Dr. Murphy, in conclusion, states, in reference to Dr. Hamilton's doctrines:

"1st. *No proof* is given; neither do the records of the largest hospitals in Europe, nor their practice, establish that the prolongation of the first stage of labour beyond fourteen hours, so impairs the vigour of the uterus as to become dangerous to the mother and child.

"2nd. That in cases where the pains are continuing often and decided, while the os tincæ is lax, dilatable and thin, the uterus hardly ever fails, unless from some obstruction in the

second stage, in expelling the child with safety to both ; and, therefore, that the practice of hurrying on the first stage of labour is totally unnecessary.

“3rd. That considering the structure of the os tinæ, how readily a derangement in the order of the labour may be produced, and its liability to be inflamed from irritation, such a practice might become actually mischievous.* Doctor Churchill states, in his Second Report of the Western Lying-in Hospital and Dispensary of Dublin, with reference to his tables, ‘Further, it will be perceived at once, that these tables have a peculiar bearing upon the interesting controversy lately carried on between Dr. Hamilton, of Edinburgh, and Dr. Collins, of Dublin.’ So far as the series of facts I have just presented extend, they are in direct opposition to the expressed opinions of Professor Hamilton, for a prolonged first stage neither rendered the powers of the uterus inadequate to expel the infant with safety to its life, or the future well-being of the patient, nor disposed the uterus to contract irregularly, so as to occasion retention of the placenta, nor too feebly to prevent fatal hemorrhage ; nor lastly, did it give rise to febrile or inflammatory affections of a most dangerous nature.”†

I would also particularly refer to Dr. Beatty’s Report of the New Lying-in Hospital, in Dublin, in the twelfth volume of this Journal, which most unaccountably escaped my observation in my last communication on this subject : Doctor Beatty’s tables, showing the number of cases where the labour exceeded twenty-four hours, with the result to both mother and child, contain the kind of information every physician should anxiously seek for, and *prove* (like all other registries) Professor Hamilton’s views to be visionary. Dr. Beatty’s conclusions are really practical, and demonstrate clearly the value of

* See Dublin Medical Journal, May, 1837.

† See these statements in Dr. Hamilton’s letter as the basis of his “innovations,” p. 200, Literary Gazette, May number.

such registries.* All these unquestionable proofs, from sources I have no doubt satisfactory, so graphically illustrative of the justness and propriety of condemning *one and all* of Professor Hamilton's hasty innovations were prominently recorded by me; and yet Dr. Hamilton, with his accustomed recklessness, states, that I had good reason for having passed over the first and last of his untoward circumstances in silence, and selected for illustration only two of his doctrines. If this sample of the Professor's tact in prevarication be not unworthy, and calculated to lower his dignity, I "may be" mistaken; but even Dr. Hamilton could not define this "possible."

With extreme pain and regret I feel it, in the next place, my duty to expose to my professional brethren the Professor's proverbial tact in *scurrility* and I hesitate not to declare, that if a medal were offered for consummate skill in such "innovations," it "must" be voted to him unanimously by every old and young pupil he has instructed "since the year 1800."

EXAMPLES.—The Professor, when adverting to some cases recorded by me observes, "I will venture to say, that excepting the case detailed by Professor Davis, p. 49, of his *Elements of Operative Midwifery*, as having occurred in an English work-house, the medical annals of this empire do not record two more shocking instances of mismanagement than the cases narrated in his *Practical Treatise*, by Dr. Collins, p. 465, No. 210; and p. 481, No. 1038."

* How striking is the difference between the conduct of the Dublin hospital physicians towards their professional brethren, when compared with that of Professor Hamilton. The former make known with the utmost accuracy every occurrence met with; whereas, for half a century, the latter has concealed every iota of the hospital results. We are informed these have been preserved, for the last fifteen years in "ponderous ledgers," but that some of the early records were "abstracted." Surely Professor Hamilton could furnish from his lectures an abstract of the number of children born *in* the Edinburgh Hospital, the number of which were *still-born*, and the number of mothers that *died*. Is it possible he has had charge of the hospital, and also University Professor, and *both* for *half a century*, and even a note is not found of these important events?

“One of the most frequent remarks which I have heard young practitioners make,* after reading Dr. Collins's Practical Treatise, is the total disregard to the sufferings of the poor patient, which is so little concealed, that provided the poor woman *struggled through and left the hospital alive*, it would seem that the intensity or duration of the pains she sustained were held of no account.”

Were I the most degraded of authors, and in every respect undeserving of the *truly fulsome* adulations heaped upon me for my *candour* by Professor Hamilton (in order the better to cut my throat with my own weapons?) could language more *gross* and *unprofessional* be defined by his authority, Dr. Johnson, than the extracts given supply? Let us now see the reliance to be placed on the Professor's slanderous assertions. First, with respect to the two shocking instances of mismanagement, chosen with the Professor's deepest penetration from a record of 16,414 cases; each of which he has now served up *three times*, accompanied with his most piquant sauciness. I should think, however, that the much esteemed *frog* would be blown upon if thus frequently reproduced.†

* “May be!” these were the very respectable Irish students who were seriously offended at Dr. Hamilton's observations on my animadversions, and caused him so great mortification. See Dublin Medical Journal, vol. xiii. p. 403.

† I copy the following passage from the late Dr. Mackintosh's pamphlet, published in 1823, in reply to observations upon his Treatise on Puerperal Fever. Those who wish to study Dr. Hamilton's *good qualities*, and the good care taken of the patients in the Edinburgh hospital, will be *amply repaid* by the perusal of this little treatise. Dr. Mackintosh states, “The silly sarcasms which are so freely indulged in through the whole of his observations on my cases, I shall pass over in silence, as they are alone calculated to excite unfavourable feelings towards the author,—at least, with those individuals whose good opinion is of any value. I hope I shall be excused (he adds) by those who have not seen the annotator's work, for copying the following extract, as a specimen of its tenor and illiberality:—
'Let the reader regard this *most shocking!* case in another point of view. What could have been expected from the treatment?!—Every practical physician will answer,—Effusion of bloody serum into the cavities, *exhaustion*, and *death*; even although the subject of the experiment had been a person of robust strength,—as for example, a bold dragoon.’”

In my last condemnation of Dr. Hamilton's deviations, I have given the following remarks by him upon one of these *identical* cases formerly commented upon, viz.:—"I should have applied the forceps and extracted the infant. In the above instances, therefore, it must appear to any candid inquirer after truth, that both mother and child were victims to the practice adopted; the cause of protraction was evidently the interception of a band of the cervix uteri between the head of the infant and the pubes."

I have replied to the Professor's generous criticism in the following very strong language, viz.:—"This bombastical and presumptuous language is in my opinion truly unworthy in any individual, and still more so from an aged professor, who should certainly not instruct his pupils in scurrility, which every well regulated mind invariably treats with the utmost contempt; my statement regarding the delivery of this patient is, that after the head was lessened, *almost every bone was removed* before it could be delivered; and even after it was brought down, *much exertion* was required to free the shoulders and body. The child (a first) was large, and the body somewhat distended with air. *Would* any 'inquirer after truth' have made the unfounded and unprofessional remarks above, with such a detail before his eyes. I cannot avoid stating, that if commentators similar to Professor Hamilton were numerous, who would sit down to cull and distort cases in support of their own doctrines, and at the same time scrupulously conceal the really valuable and obvious results, to the *disadvantage* of the writer, as I unhesitatingly submit I have demonstrated Dr. Hamilton to have done in every instance noticed in this communication, it is my opinion, that physicians attached to hospitals would then be quite justified in reporting the results once in 'half a century.' Fortunately, however, they are rare, as I have met with no other to act so unfairly; and until Professor Hamilton proves to his brethren in the profession, by a minute detail of the cases under his care in the Edinburgh hospital,

somewhat similar to what I have done from the Dublin hospital, that his practice has been attended, not only with *equal*, but *happier* success, he should be *ashamed* to make such gross remarks as have sometimes escaped him; and his criticism upon others, *so long as he hides his own practice* in ‘ponderous ledgers,’ must prove *abortive*.”

As to the Professor's statement, (heard by him so frequently from young practitioners!) of my total disregard to the sufferings of the poor patient, provided she struggled through and left hospital alive; it betrays so much recklessness as to indelibly mark the real traitor.

Dr. Hamilton has indeed a very tender and sympathizing heart towards the sufferings of the poor women under his care in the Edinburgh hospital, and puts *one* in every *twenty-one* really out of pain! which “he holds of no account;” but has he any *conscience*? as if he has, we envy not his feelings. No earthly consideration would induce me to continue to undertake the medical charge of any lying-in hospital, where so frightful a mortality continued to be witnessed. “Is not this highly prejudicial to the public, by the example held out to young men learning the profession?” “Every practitioner of midwifery should sympathise with the feelings of the poor patients (children and relations?) and should employ every *safe means*,” so that they “may” “struggle through the hospital alive;” which I have defined “to be possible;” as in the Dublin hospital, in the vast number 10,786 deliveries, only *one* death in *one hundred and eighty-six* occurred. “It was long ago well observed by Dr. Osborne, that the calamitous condition of the female sex during the progress of parturition, is such, that the humblest of them have the strongest and most complicated claims upon the benevolence and skill of the practitioner. What would have been his feelings if he had lived to read”—this detail of the Edinburgh hospital under the care of the University Professor?

It “may be” the “young practitioners” alluded to by Dr. Hamilton were not informed by him of the comparative mortality

in the Edinburgh and Dublin hospitals ;” although he always endeavours in the exercise of his duty to comment on the opinions of others in the true spirit of giving *instruction*, and anxiously avoids indulging in censure !” I venture, however, to prognosticate, my young friends will jog the Professor’s *feelings* on this disagreeable subject. What will his ancient professional brethren think of the mean attempt of Dr. Hamilton to skulk behind Dr. John Moir, in order to avoid the “ necessary results” of his “ innovations and deviations” in the Edinburgh hospital ?

The Doctor states, “ as my friend Dr. John Moir, Assistant Physician to the Edinburgh General Lying-in Hospital, has undertaken to send to your Journal an abstract of the cases which have occurred in that hospital, since the year 1823, I shall take no other notice of Dr. Collins’s observations respecting that hospital, than to point out a most deliberate misrepresentation respecting my account of that institution, on which he has been pleased to found an impeachment of my veracity.” Is this the manner, I ask, in which the Professor is to satisfy his professional brethren of the utility of his *innovations* and *deviations*, as practised in the Edinburgh hospital for nearly “ half a century” ? I could scarcely believe my eyes when I saw the monstrous proposal ; and I now tell Dr. Hamilton, that no form of abstract whatever, furnished by *any other individual* than *himself*, will be looked upon otherwise than as a *disgrace* to him. What has Dr. John Moir (for whom I have much respect) to do with Dr. Hamilton’s imaginary views ? How is he to prove from the “ ponderous ledgers” of the hospital, that he is the identical Professor, who has been disseminating his “ may-be” doctrines since the year 1800, and from which the poisonous sting has been extracted, and it is well known the reception the bee meets with in the hive where this occurs. I *demand* from Dr. Hamilton, and I have no hesitation in declaring my belief, that the entire medical profession unite with me in *loudly calling* for a

minute detail of the cases under his care in the Edinburgh hospital; taken during the progress of the patient's illness, *marking the cause of interference* in those cases, where a *deviation* from the *ordinary* mode of treatment was had recourse to; and at the same time, *making us acquainted* with the *result* in *all* cases to both *mother* and *child*. How can the Professor hold up his head, so long as he withholds this all important information from the medical profession. Is this the way the learned Professor is to establish the "*validity of his doctrines*," after excluding the many eminent practitioners of Edinburgh from the charge of the hospital for *fifty years*, and occupying the midwifery chair of the University to their *exclusion* for that almost unexampled period? If so, the public confidence is sadly requited in return for their kindness in retaining him so long in these highly responsible and honorable offices. And is the *benefit* to be conferred on the Professor's professional brethren from those *ages* of experience, and possession of the hospital to their *incalculable disadvantage*, solely to consist in *mere assertions* (without the production of even the *shadow* of a *fact* or *proof* from the hospital *records*) of "*innovations and deviations*," of "*new doctrines and new opinions*," *one* and *all* of which Dr. Hamilton defines "*to be possible?*" Surely the "*untoward circumstances*" enumerated are not the "*necessary effects*" of the Professor's occupying these truly important offices for half a century; *it must be his own mistake!* Is it necessary to declare, that a thousand probabilities will not make one *truth*; or that when facts not generally known are stated, they should be authenticated by proper references. How different are the vague and fanciful assertions of Dr. Hamilton. He states,* "*I have added (Practical Observations, Part First, page 196) that by the adoption of this rule, I can confidently assert, that no patient under my charge, for the last thirty-five years, has been above twenty-four hours in labour, and, ex-*

* See vol. xiii. Dublin Journal, p. 203.

cepting in cases of disproportion, none so long." "Against this practice Dr. Collins has objected in very strong language. He says, page 40 of your Journal: I have, however, studied every page with the closest attention, nor can I find *fact* or *argument* to induce me to alter my decided opinion, that *such* measures, [alluding to the means suggested for limiting the first stage to twelve or fourteen hours,] thus warmly urged, are not only uncalled for, as far as regards the *safety* of the patient, but if *generally* acted upon, likely to be followed by *serious results* both to the *mother* and *child*. This anathema is very inconsistent with Dr. Collins's usual candour, and is certainly not a little startling. I have stated strongly the fact; if Dr. Collins deny *this assertion*, I shall refer him at once to the *testimony of public opinion in this city*"!! I confess this is a liberal offer, and as I knew no better way to set about the task, I directed searches to be made of the public records, and *here* indeed, I am told the Professor's "deviations" from the opinions of his professional brethren are clearly proved by public record. As this amounted to a demonstration of the Professor's *title*, it was only "necessary" to search the shops of the several booksellers for any judgments which *may* be outstanding before his deeds were engrossed. I furnish a note*

* "The only charge which now remains for me to refute, is that of 'calumny,' which has been brought against me by Messrs. Moir and Hamilton. This arises from the following statement, made at page 303 of my Treatise respecting Dr. Hamilton, that 'he possesses, *too*, a power of ingenuity which I never saw surpassed, of *selecting passages* to cast ridicule upon the very authors themselves, *who dare to disagree with him in opinion*.' Now this I mean boldly to repeat; it is too *notorious a fact* to be denied; and I confidently appeal to *all* who have attended Dr. Hamilton's lectures, and whose memories are not convenient to a fault, in *proof* of this; and I can as confidently appeal to the general practitioners with whom Dr. Hamilton has frequent intercourse, as to the total want of ceremony with which he treats the professional characters of many of those who move in the same line of practice with himself. It was my intention to have driven Dr. Hamilton *severely* on this point, but I shall for the present be silent, and content myself with proving the *fact* from expressions used in Dr. Hamilton's Valedictory Lecture, as

of what was found, and as it is totally impossible that Dr. Hamilton can *remove* the *difficulty*, he is left in the *enjoyment* of his "innovations and deviations" for the remainder of his life. As to the charge of deliberate misrepresentation noticed, I throw it back upon the Professor with genuine contempt; as neither in this instance, nor any other, did I ever alter a letter of what he has printed; he tells us, to be sure, that he sometimes prints mistakes! The Professor had stated in his third letter, London Medical Gazette, that by a report made to the managers of the Edinburgh hospital, it appeared that 15,936 women had been delivered previous to the 1st of Oct., 1836. I have declared that this statement was calculated to make the unsuspecting reader believe that the total 15,936 women were delivered in the Edinburgh hospital; whereas the *fact* is far otherwise, as, from the year 1793 up to 1834 *only* 5,198 had been delivered in the hospital; which showed the annual average to be reduced to the very small number of about 126.* I again tell Dr. Hamilton, that it was a most uncandid statement, and that no individual who was not blessed with his *in-*

exhibited in an extract he himself has given. That Dr. Hamilton does make use of intemperate expressions respecting the opinions of others is quite evident, otherwise where would be the necessity for the apology which he brings forward thrice a-year in the following terms? 'And if, *unfortunately*, my zeal for the improvement of the profession *lead* me at any time into *intemperance* of expression, I hope it will be attributed to the *feelings* of the moment.' This would be a very proper apology for intemperance of expression on *one* occasion, or in the heat of an extemporaneous speech, but when my readers are told, that the same apology comes, coolly and deliberately, *three times a-year* from Dr. Hamilton, and that it has come for *many, many years*, they will think with me, *that it is a piece of humbug*.

"JOHN MACKINTOSH, M. D.,

"Lecturer on the practice of Physic, Edinburgh, 1823."

"As for poor Professor Hamilton, he must now be accustomed to seeing *facts* *versus* his *dogmatic assertions*; but he has run *a-muck* at *every body* so often that he is looked on by *all* as an *Accoucheur-Quixotte*."—*London Medico-Chirurgical Review*, October, 1838, page 632.

* See Dublin Medical Journal, vol. xiii. p. 419.

genuity would venture to deny it. Let any man read the passage, and see his *smothered* efforts to *compare* the number of deliveries in the Edinburgh hospital, with that of Dublin; he begins, "It will no doubt, surprise Dr. Collins and the gentlemen connected with the great establishment in Dublin," &c.

How is it, the reader "may" ask, that Dr. Hamilton has attempted to deny Dr. Collins's charge. I blush to tell it, as it is by equally great want of candour, and another attempt at concealment.

My rebuke was called forth by the tricky paragraph alluded to, and which was published in the Doctor's *third* letter of the London Medical Gazette, 19th August, 1837, page 758, and to which I critically referred;—read the artful reply: "in page 387 of the London Medical Gazette, for July 1837, [*mark* this was the Professor's *second* letter,] I have stated, that, "it is well known also, since the establishment of the Edinburgh General Lying-in Hospital in 1793, I have had the chief charge of the institution; and although it is upon a scale quite inconsistent with the extent of our population, yet 15,936 patients were delivered by the medical attendants of the hospital, previous to the 1st of October, 1836;" *mark*, I pray you, the shift;—his *third* letter stated, "it appears, that 15,936 women had been delivered previous to the 1st of October, 1836; and he *attempts* to envelope this notable letter by his *second*, (to which no reference was made,) *because* he there had stated 15,936 patients were delivered *by the medical attendants*! I would ask the Professor to be *frank* in his letters, only I do not wish to be under any compliment to him. The Professor adds, "Dr. Collins has had the hardihood to declare his disbelief in this statement, and triumphantly brings forward a quotation from the annual address to the public, in favour of the hospital, printed in 1834, to prove that only 5,189 patients were delivered within the walls of the hospital. The printed sentence in the address, from which he has taken half a sen-

tence, is in the following words: 5198 patients have been delivered in the hospital, and 9126 out patients have been attended at their own houses."

The reader will please again to *mark*, that *no* such frank deciphering appeared in the *simple* statement in the *third* letter, wherein the Professor wished to "surprise the gentlemen connected with the great establishment in Dublin." Is it not plain, that if I had not luckily stumbled upon the interesting Report of 1834, so as to make known the *outs* and *ins* of the Professor, the Dublin gentlemen must have been seriously, not surprised, but frightened; but now that they are aware that 9,126 of the 15,936 patients, were not only *not* delivered *in* the Edinburgh hospital, but some of them "may-be" as near to Leith as Edinburgh, the Dublin gentlemen need not be alarmed.

I ask my professional brethren, was I not markedly called upon to expose the want of candour and concealment which I discovered in the Professor's dexterous paragraph. I regret that I have been forced to say so much upon so truly disagreeable a subject; but Dr. Hamilton's vain attempt to escape the imputation rendered this demonstration imperative.* Had I left similar pitfalls in my statement of the deliveries in the Dublin hospital, Professor Hamilton himself would well know how to apply the epithet, which conduct such as this so well merits. Such artful devices as the Professor unblushingly creates, to shelter himself from the "necessary effects" of his *visionary doctrines*, furnish when detected, their own condemnation; and cannot fail to place the inventor in a most unenviable situation. Another of these meretricious efforts, even more worthy than that just noticed, is displayed at page 187, but here—

"Amazement seizes all; the general cry
Proclaims Laocoon justly doom'd to die."

* "On perusing this statement, the reader will perceive the dilemma in which Dr. James Hamilton is placed, and will perhaps say in his own mind, that there is no hole through which he can escape; but alas, he does not know the ingenious Doctor, he will always escape, but always in a manner peculiar to himself."—See Mackintosh's Practice of Physic, p. 280.

Proof. The Professor records, that Dr. Collins, “not contented with asserting that I hold all the possible effects of the protraction of labour to be the necessary and inevitable ones; he has selected for illustration only two of these effects, viz. retention of the placenta and uterine hæmorrhage after delivery; and because these occurrences were *rare* (*not that they did not happen*) in the Dublin Lying-in Hospital; he has triumphantly appealed to this *fortunate coincidence*, as completely proving the error of my opinions.”

Is it not almost *incredible*, that a professor of “reputed respectability” would venture to defend himself by so groundless a statement as that which I have quoted, viz., “*because these occurrences were rare!!*” “*not that they did not happen!!*” “he has triumphantly appealed to this *fortunate coincidence!!*” I need only again *proclaim* the *astounding fact*; that Professor Hamilton absolutely *culled* and published the *only single case* which occurred in support of his visionary doctrines, out of *sixteen thousand four hundred and fourteen deliveries*; as the recorded support of the *validity* of his *new* doctrines and *new* practice?! This was *staring* Professor Hamilton in the face in my last communication to this Journal, where I was compelled to *expose* the utter groundlessness of his doctrines; and yet he persists in wallowing in the *mire*. This *happy* selection of Dr. Hamilton was in *proof!* of the *second* of his doctrines; and his choice in *proof!* of the *third* was alike *substantial*. Both have been so fully developed* as to render additional perspicuity needless. It would be well for Professor Hamilton if his mind were imbued with the following sound and truly practical doctrine, which, on a very recent occasion, was inculcated with the happiest effect, viz., “It will, I think, be conceded, that in any department of natural knowledge, a doctrine which is worthy of the least respect, must have some foundation in nature. *A mere speculation*, however

* Dublin Medical Journal, vol. xiii. page 413.

ingenious, if it be not only *unsupported* by facts, *but in direct opposition to them*, cannot be received as a doctrine, and any inferences which may be drawn from such a speculation, *must be as false as the foundation on which they rest.*"* Such sentiments deserve all praise; at the same time do honour to the eminent individual who gave utterance to them, and are only in unison with that sound knowledge which has ever signalized him as one of the ablest practitioners, and brightest ornaments of our profession, either in this or any other country.

I had written so far of this paper, when the last number of the Dublin Medical Journal appeared, containing "An Examination of Dr. Hamilton's Letters in Defence of his Opinions;" by Edward W. Murphy, A.M. M.D., late Assistant Physician to the Dublin Lying-in Hospital.

This communication of Dr. Murphy's is full of interest to every member of the profession, and does infinite credit to the author. There are few subjects, a sound knowledge of which is more important, especially to the *junior* practitioner, than the one discussed; and Dr. Murphy has treated it in the clearest and most masterly manner; in every instance adducing unquestionable proofs in support of what he has advanced.

In the conclusion of Professor Hamilton's reply to my last communication, he states that "I have even accused him of concealment in respect to the affairs of the Edinburgh hospital." My charge was more serious, as I have exposed at page 88, in overstating the deliveries in the hospital. With regard to "the very items of expenditure," and "the pupils attending the hospital at an expense of £1 3s. for six months;" it would require more dexterity than even Dr. Hamilton is possessed of, to show that I hinted at such "affairs." When the Doctor was so *candid*, however, I wish he had informed us how much the

* See an Outline of the History of Medicine from the earliest historic Period to the present Time, published in the preceding number of this Journal; by Philip Crampton, F.R.S., Surgeon General to the Forces in Ireland, and Surgeon in Ordinary to the Queen.

said £1 3s. was per head, for every patient *each* pupil attended in the hospital during the six months. Although I would not presume to charge Professor Hamilton with concealment in the like "affairs" noticed by him, I boldly and fearlessly charge and accuse him of concealing the practice of the Edinburgh General Lying-in Hospital for the last *fifty years*, to the incalculable disadvantage of his medical brethren; which is not only a great abuse of the confidence placed in him by the subscribers, but a glaring injury, in depriving the profession of that information which would enable them to practise with credit to themselves and advantage to the public; and to which they are in every sense as fully entitled as Dr. Hamilton. I again repeat, Professor Hamilton's lectures should supply a full outline of the most important occurrences in the hospital; and, therefore, notwithstanding "some" of the public records were "abstracted," this affords no shelter whatever. Dr. Hamilton can "confidently assert" certain occurrences for the last thirty-five years; and can refer to "the public opinion of the city of Edinburgh" for proof of said assertions, for that very long period. He can also tell us what occurred in the first twenty years of his practice; and likewise what occurred in his private practice since the year 1800. He can also state the total number of cases of rupture of the uterus in the Edinburgh hospital since its foundation; although "some" of the records were "abstracted;" but—after all these wonderful efforts to enlighten the profession, he leaves us completely in the dark as to the *total mortality* to the *mother* and *child*. I still hope Dr. Hamilton will reconsider the subject, and give the result of such records as were not "abstracted," filling up the defective part with as many of the important particulars as he can collect from his lectures, or other sources. By acting upon this suggestion, Professor Hamilton will prove he is anxious to do his best; and thus avoid the slur, which the abandonment of so essential a public duty must attach to him, both now and hereafter.

I have very briefly to notice the conclusion of Professor Hamilton's discreditable letter ; it ends thus : " Having pointed out, that by means of interpolations and substitution of words, and by garbled quotations of sentences and paragraphs, Dr. Collins has contrived to render plausible his various misstatements and misrepresentations of my opinions and practice,* I have only to add, that it is impossible for me ever to have any future communication with that individual."

I do not think my professional brethren will credit the Professor's rigmarole story of misrepresentations. Dr. Hamilton " may" make such statements, but Dr. Johnson could not define such " to be possible." I allege the " untoward circumstances" in which the Professor is placed, to be the "*necessary effects*" of his " deviations ;" and I have most particularly declared such to be my opinion ; thus the word " necessary" has not been inserted " by mistake!!" therefore, I hope Dr. Hamilton will not " protest most solemnly" against my using it in the present instance.

As to Dr. Hamilton's declining any future communication with me, the loss of so kind, generous, and valued a correspondent " may be" great ; but " I allege not the necessary effects." I forewarned Dr. Hamilton, in my last communication, that the unworthy language he made use of was in every respect calculated to prohibit friendly intercourse ; and I rather think, from what has been shown of his conduct since, he is not the man, as is said in Ireland, " we would borrow money to spend in his company ;" therefore, " I shall believe after trial, and judge before friendship ;" always thinking content the true philosopher's stone, and that a false friend is worse than an open enemy.

* Dr. Murphy justly states, "such has been the ambiguity in Dr. Hamilton's language, and so often has his meaning been misunderstood, so loud has been his protest against misinterpretations, misrepresentations, and mistakes, that though the words seem plain, and the sense apparently clear, *I almost doubt whether the work itself* may not be a misrepresentation of his opinions on the subject of labour, at least in the sense in which it would be most usually understood."

I shall not, however, follow Dr. Hamilton's *harsh* example, and abandon him altogether, and he may rest assured whenever he advances doctrines *similarly fraught with danger*, I shall ever feel it my duty to correct their evil tendency as far as in my power.

ART. III.—*Observations on the Exhibition of Remedies, in the Form of Vapour, in Pulmonary Diseases ; with Description of a Diffuser of the Administration of Iodine, Chlorine, &c.* By D. J. CORRIGAN, M.D., Lecturer on the Theory and Practice of Medicine in the Dublin School of Anatomy, Surgery, and Medicine, Physician to Jervis-street Hospital, and to the Cork-street Fever Hospital, &c.

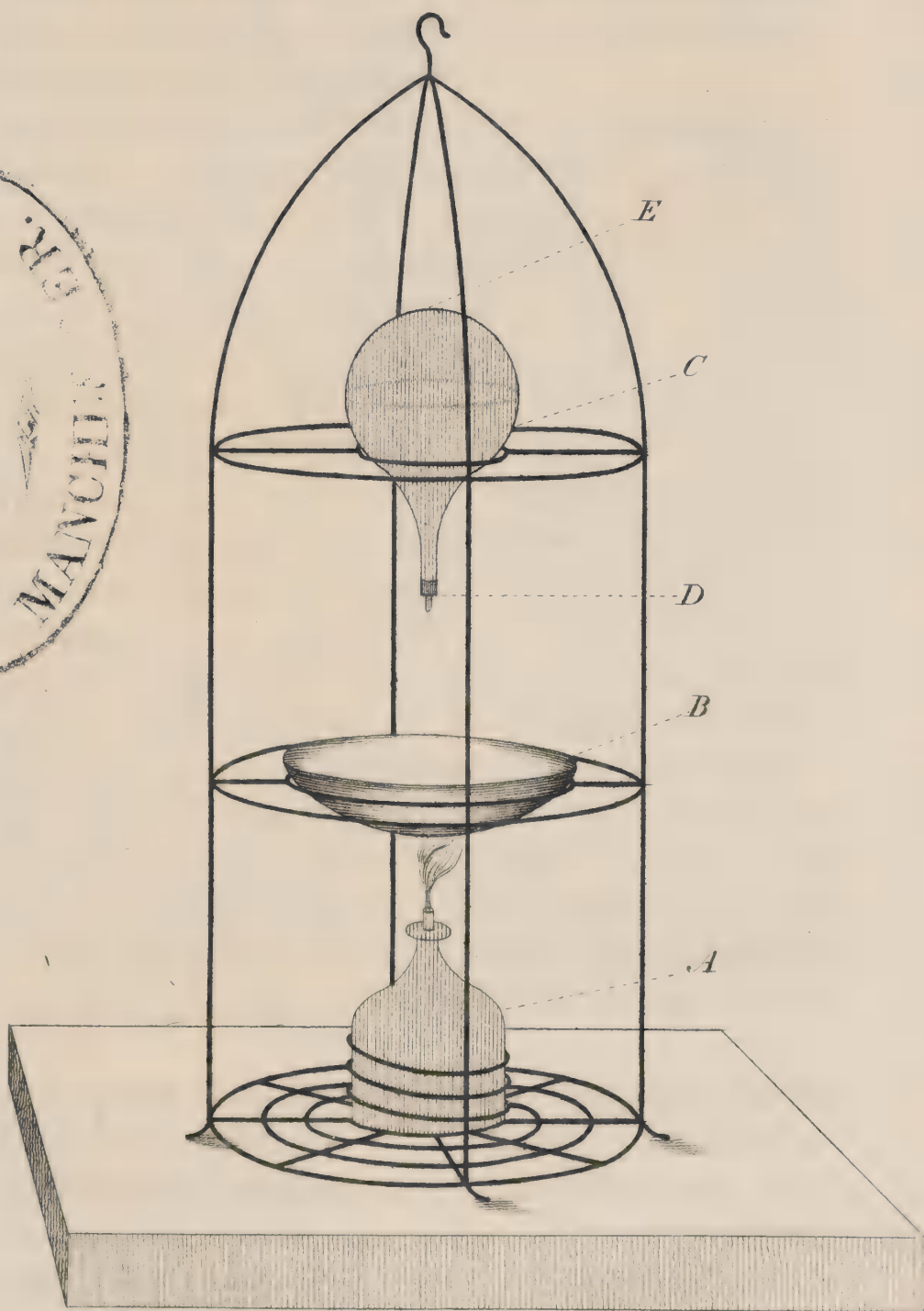
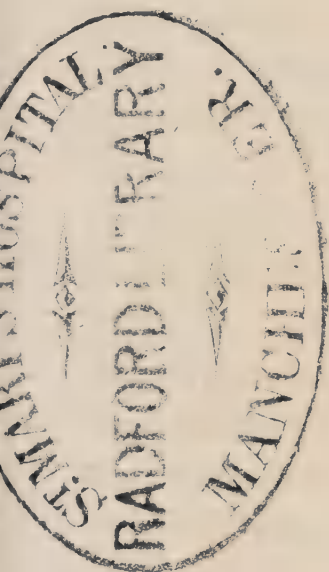
[Read at the Evening Meeting of the College of Physicians in the College Hall, on the 18th of February, 1839.]

A GREAT obstacle to the successful treatment of pulmonary diseases has always existed in the difficulty of applying remedies, which should exercise *a topical action* in those diseases. The superiority of remedies applied in a topical form, over those acting through the medium of absorption, or constitutional sympathy, is manifest in a host of diseases : ulceration in the eye, the mouth, the throat, or the rectum, diseased secretion from the skin or mucous surfaces, which can be reached by topical applications, are generally speedily arrested and cured ; while diseased actions or secretions of no greater intensity, but which, from their situation, may be beyond the reach of local applications, are too often, either of tedious cure, or run their progress unchecked.

In no class of diseases is the difficulty of applying topical remedies more to be deplored than in diseases of the lungs ; for, from this difficulty, diseased actions, which in other parts are under our ready control, are in the lungs often incurable.

The impossibility of applying topical applications, in their ordinary forms, to diseased structure in the lungs, has naturally

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*DOCTOR CORRIGAN'S Diffuser for the administration of
Iodine, Chlorine &c in the form of vapour.*

led to the employment of remedies in the form of vapour ; which, mixed with, or dissolved in the air we breathe, might be thus made to reach disease of structure or secretion, and exercise upon it a local and curative action.

From the days of Darwin and Beddoes to the present, the profession have at various times recommended the administration of remedies in the form of vapour ; and the effects of inhalation have been as enthusiastically lauded by some, as they have been contemptuously derided by others. Two difficulties had existed in the way of arriving at a fair estimate of the conflicting opinions. The first, arose from the obscurity in which the pathology and diagnosis of affections of the lungs were involved, so that it was frequently impossible to pronounce with certainty on the exact nature of the disease under treatment. Such uncertainty entailed bad results ; it enabled the ignorant or rash innovator to make assertions of cures of diseases which had never existed ; while, on the other hand, it permitted the dogged opponent of all improvement, to deny whatever he disliked in the pathology or diagnosis of his adversary. This difficulty no longer exists : the knowledge of pathology and diagnosis possessed by the physician of the present day is sufficient, in most instances of pulmonary affections, to enable him to pronounce with certainty on the exact nature of any case under treatment, and to estimate the real merits of any curative process.

Of the powerful influence, which, various vapours, and even changes in the air itself, as to heat, moisture, constitution of the atmosphere, &c., exercise as local agents on the lungs, there cannot be a doubt. Every day's observation shows it : every one in his own person feels it. Even allowing most fully for the exaggerated encomiums of some of the older advocates of inhalation, enough remains in the attestations of such men as Darwin, Beddoes, Withering, and their contemporaries, to forbid us to abandon this plan of treatment. As we approach the present day, we meet with fresh encouragement to follow up its pursuit.

Laennec, in his imperishable work, (*Traité de l'Auscultation*), has a passage, of itself sufficient to encourage us in further trials:

“I attempted (he observes) last winter to maintain, in a small ward of my hospital, an artificial sea atmosphere, by strewing through it a quantity of sea-wrack (*fucus verrucosus*). Twelve patients were subjected to this treatment during four months. In all those cases, the disease was kept at least stationary, and in some of them the wasting and hectic were visibly lessened. Nine of them, believing themselves cured, would not remain longer in hospital; but of this number, only one presented what I myself could consider satisfactory hopes of a cure.

“On the supply of sea-wrack failing in the spring, the disease in the three remaining in hospital immediately became aggravated, and terminated fatally.”*

In 1819 Gannal observed, that very unexpected cures of serious affections of the lungs were occasionally wrought in workmen employed in bleaching factories, whose occupation necessarily forced them to inhale chlorine mingled with atmospheric air. Sir James Murray has also mentioned, that a friend of his, Mr. Greenfield, had observed similar effects among his workmen, exposed to the inhalation of watery vapour strongly impregnated with chlorine.† In 1828 Gannal read a paper, at a meeting of the Royal Academy of Medicine in Paris, on the good effects of the inhalation of chlorine, and exhibited an inhaling apparatus which he had invented for its administration. Laennec, in his clinical lectures, had previously spoken favourably of its employment‡ Gannal, in his observations, recommended chlorine as a curative agent in phthisis, and related several cases to demonstrate its good effects. His statements of the magical effects of chlorine in phthisis have not been con-

* *Traité de l'Auscultation Mediate*, &c., par R. I. H. Laennec, vol. ii. p. 137, Ed. 3rd, 1831.

† *A Dissertation on the Influence of Heat and Humidity*, &c., by James Murray, M. D., p. 126. Lond. 1829.

‡ *Revue Medicale*, 1823, vol. i. p. 296.

firmed by subsequent observers, and it has been supposed, and perhaps reasonably, that some of those cases in which cure was effected, were cases, not of phthisis, but of bad catarrh, and hence occasion has been seized on to decry inhalation; but surely the very admission of the opponents of inhalation, that cases of catarrh, so severe as to simulate phthisis, have been cured or benefited by inhalation, is one of the strongest recommendations in its favour. It may be mentioned as strong confirmatory evidence in favour of it, that Toulmouche,* who had been one of the opponents of inhalation, has become a convert to its employment, and has lately written in support of it.†

In 1829, Berton, at a meeting of the Royal Academy of Medicine of Paris,‡ read a paper on the administration of iodine in the form of vapour, in cases of phthisis, and stated, that, used in this form it was free from the injurious effects which it often produced on the mucous membrane of the digestive organs, when given in the ordinary way. The results he obtained were favourable to further trials. In the same year, Sir James Murray, in a work of his already quoted, also recommended the same form of administration. We, moreover, see, that in some instances the form of vapour is selected for the application of a remedy, not only where it can in no other way be made to reach locally a diseased surface; but that in cases where there is no such obstacle to the direct application of a remedy, the form of vapour is, nevertheless, selected as the most efficacious and most rapid mode of inducing the desired effect. Thus, in venereal diseases of the throat, and in many affections of the skin, even where the diseased surface is perfectly open to any form of application, fumigations are nevertheless in preference selected, as more beneficial and more rapid in action than any other mode of treatment.

I think these few observations justify me in coming to the

* Vid. note in Laennec, vol. ii. p. 184.

† Gazette Medicale de Paris, Med.-Chirurgical Review, January, 1839.

‡ Vid. Archives Generales de Medicine, vol. xix. p. 134.

conclusion, that remedies in the form of vapour exert a powerful influence over diseased action ; and that, as it is only in this form we can ever administer remedies to act locally upon diseased tissues in the lungs, the exhibition of remedies in this form merits close attention and further perseverance.

I have now to notice the second obstacle which has impeded the full employment, and fair trial of inhalation. That obstacle has hitherto existed in the practical difficulty of its application ; which has been so great in all the ways hitherto attempted, that at a meeting of the Royal Academy of Medicine, at Paris, Meriàdec Laennec admitted, that inhalation had never yet had a fair trial. A very short notice of the modes attempted will show this.

When Laennec wished to try the effect of medicated air, he exposed in the wards, sea-wrack mixed with chloride of lime. This, it is obvious, was a clumsy and ineffective mode of attaining the object. The evolution of gas was uncertain in quantity ; it was dry, and in this state was irritating to the larynx. The evolution being also at one time very great, and at another instant almost diminished to nothing, the patients were constantly subjected to sudden injurious vicissitudes in the quality and quantity of the air they were respiring.

Gannal invented the glass inhaler, which is the one now ordinarily in use ; into this a quantity of water heated to 80° of Fahrenheit is poured, and when chlorine is to be used, 4 or 6 drops of a saturated solution of it, are let fall into the vessel, or ten or twenty drops of the tincture of iodine, when the latter remedy is employed. The patient then applying his mouth to the bent tube respire through it, from four to ten minutes at a time. It is only requisite to see a patient attempting to use this inhaler, to be convinced of its total inefficiency for the end proposed. Its employment is fatiguing, and most disagreeable ; many patients can never be taught to use it ; with all their exertions they never draw a particle of vapour into the lungs, but suck it into the mouth, and puff it out

through the nostrils, without its ever passing beyond the throat. Its management in other respects requires great nicety. If the water be cool, there is no evolution of vapour ; if too hot, the whole substance intended to be inhaled gradually is at once suddenly evaporated, and the result is, an injurious impression upon the larynx, the most sensitive part of the respiratory organs. Cottereau attempted to remedy the latter evil, by adapting a thermometer and outer case to the apparatus ; but this so much complicated it, that his improvement is not used. The short length of time too during which a patient can use the inhaler, not more than four or five minutes uninterruptedly, and even so long with fatigue, renders it worthless as a means of conveying any sufficient quantity of vapour to the interior of the lungs. The inefficiency of the inhaler was so palpable, that Bourgeois and Jolly recommended, as preferable, a return to the very defective mode previously practised by Laennec. Dr. Williams, also, in his lectures on Diseases of the Chest,* has made the following observation on the inefficiency of the inhaler. " I have not (he observes) much experience of this kind of treatment, but in several cases in which I have seen it tried, an unfavourable effect seemed to arise, from the effort necessary in using the inhaling apparatus, the tubes being too small, and the patients complaining of the operation fatiguing them. I should suggest as a substitute for this plan, the diffusion of iodine or chlorine combined with watery vapour, either in the apartment of the patient, or what would be more practicable, in a small room or closet, cleared for the purpose, in which he could spend from half an hour to an hour twice a day. Iodine or chlorine may be readily dispersed in any quantity through the room, by placing a few grains of the powder, or a solution of the chloride of lime or soda, in a saucer floating on hot water." Dr. Williams's plan (which he proposes as a substitute for the inhaler) would not,

* Lectures on the Physiology and Diseases of the Chest, &c., Medical Gazette, February, 1838.

I think, either supply the vapour in steady quantity nor the watery vapour in sufficient proportion. Other modes of inhalation have been devised, but they are all more or less inadequate for the attainment of the desired end. From the description I have given of the various attempts at administering remedies in the form of vapour, it is obvious that the object has never been fairly attained, unless in the instance of the workmen employed constantly in an atmosphere impregnated with chlorine; and that the observation of M. Laennec is strictly true, that inhalation has never yet had a fair trial from the practical difficulties in the way of its employment. It is to the removal of those practical difficulties that I have directed my endeavours, and I believe I have been able to attain my object.

That inhalation as a remedial process, may obtain a fair trial, it is requisite,

1st. That the apparatus should be simple in its construction, and easily kept in order.

2nd. That it should be capable of keeping up a supply of vapour for any length of time, and that the evolution of the vapour should be steady, and should be easily regulated.

3rd. That it should also furnish a sufficient supply of aqueous vapour, to prevent any irritation of the larynx or lining membrane of the air tubes.

4th. And most important of all, that its employment should entail neither trouble nor fatigue on the invalid.

I believe all these conditions are fulfilled in the following apparatus (*vide* drawing). There is a light open iron wire frame, about eighteen inches in height; at the bottom is a spirit lamp, (A). At the proper height above it, is an evaporating porcelain dish, about six inches diameter, (B). Above this is a glass globe (C) with its neck downwards. In the neck of the globe is a cork (D) bored, and through the opening is drawn, moderately tight, a short plug of cotton wick, such as is used in a spirit-lamp; in the glass globe at (E) opposite the neck is drilled a pin hole, to allow air to pass in, according as the fluid within

drops out, through the neck. To use it, the porcelain dish is filled with hot water, the spirit lamp is lighted, and as soon as the water in the dish has begun to boil, the glass globe containing the tincture of iodine (if this be the substance used) is placed as shown in the sketch. The rate at which the fluid in the globe shall percolate the cotton wick, and drop into the hot water underneath, is easily regulated. If it do not drop with sufficient rapidity, one or two of the threads of the cotton are to be removed. If it drop too rapidly, this is corrected by pressing in the cork more tightly, or introducing one or two additional threads of wick.

This apparatus fulfils, I think, all the conditions required. It is simple in construction, and most easily regulated ; there can be no sudden and injurious evolutions of vapour from it, but drop by drop, the evolution gradually and steadily goes on ; and the air which the patient is breathing, may be maintained in any required degree of impregnation, while the impregnation can be kept up for any length of time. The medicated substance employed, is always vaporized with a sufficient quantity of aqueous vapour, to prevent any irritation of the larynx or lining membrane of the air tubes ; and lastly, employment of the apparatus for any duration, entails neither trouble nor fatigue on the invalid.

With this apparatus, the impregnation of the air of even a large chamber is so perfect, that the window curtains are tinged blue by the action of the vapour of iodine. Solution of chlorine, the balsams, turpentine, preparations of camphor, stimulating or sedative remedies may, by this apparatus, be diffused in any quantity through the air which a patient is respiring.

I have mentioned the necessity which exists in most cases, of combining with the process of evaporation, a sufficient quantity of aqueous vapour, to prevent any irritation of the larynx, or mucous membrane of the air tubes. A few observations will shew the importance of attending to this. We are all familiar with the injurious effects of a dry easterly wind on

irritable lungs, and we are equally cognizant of the beneficial effects which patients, suffering under such, derive from long sea voyages, during which they are inhaling air, which, sweeping over a great extent of sea-surface, must come to their lungs holding in solution a large proportion of aqueous vapour. The following calculation, for which I am indebted to an American physician, whose name I regret I cannot recall to my mind, places the difference between the two kinds of air in a very striking point of view.

If a man breathes twenty times per minute, and draws in at each inspiration forty cubic inches of air, he will respire in twenty-four hours 1,152,000 cubic inches of air. The dew point of the human breath is always the same, it is 94° of Fahrenheit, and 1,152,000 cubic inches of air, the quantity respired in twenty-four hours, contains at 94° , 10,828 grains of water, or aqueous vapour. Suppose now, air, which we are respiring, to be so dry, such as an easterly wind in this country may be, to contain so little aqueous vapour, as to have its dew point as low as zero, the same quantity of air will then contain only 518 grains of watery vapour. This dry air which when entering the lungs, contains so small a proportion of aqueous vapour, leaves them on expiration with its dew point at 94° , that is, it now on leaving them, contains 10,828 grains of watery vapour. It has therefore abstracted the difference between 518 and 10,828, being 10,310 grains, (or nearly two pounds weight,) of watery vapour from the lining membrane of the lungs in twenty-four hours. To meet such an expenditure of the natural vapour of the air tubes, there is necessarily a constant determination of blood to the vessels of those tubes, and just as the dry air of the desert will, by robbing the parts of their natural moisture, inflame the eye and parch the throat, so will air, destitute of a due proportion of aqueous vapour, produce irritation and injury in the delicate and moist texture of the lungs.

Any lengthened observations on the therapeutic application

of the apparatus which I have described, I must reserve for a future time. The period is too short since its construction occurred to me, to permit me to say much as yet of its effects. The use of such an apparatus is principally required in chronic affections of the lungs, and these must be observed, both on a large scale, and for a length of time, before we should venture to pronounce an opinion. The only remedial agent I have yet employed with the apparatus, is iodine. Connected with its employment there are some circumstances of which, however, I can even now speak with confidence. The inhalation of iodine has been dreaded, because in some instances, troublesome irritation of the larynx has followed its use. This injurious effect has resulted from the defective means of inhalation hitherto employed. Used in the manner I have described, gradual in its evaporation, and intimately combined with a large portion of aqueous vapour, its use is positively (and I can say it with confidence) free from any injurious irritative effects. The vapour of iodine diminishes most remarkably the profuse and wasting purulent expectoration of phthisis. In the case of a man named Carroll, with whom I have been using the apparatus in Jervis-street Hospital, the purulent expectoration, which had been very profuse, diminished soon after he commenced its use, to three or four sputa in the day; and thus it remained up to the time of his leaving the hospital in January. In this case also, the constitutional symptoms accompanying phthisis were completely arrested by its employment. The physical signs of phthisis were also less extensive; but they had not disappeared when he passed from under my care. The effects of iodine thus used, on the digestive organs, have been very gratifying. In all the cases in which I employed it, the appetite and state of the intestinal canal have been improved. It has in fact acted as a most useful tonic to the digestive organs, without any of the irritation which its internal use in the ordinary form has often produced. It has also so much alleviated cough, that the patient has been enabled to obtain hours of sound and refreshing sleep. Even should its use prove on

trial to be of little avail against the destructive scrofulous ulceration which constitutes phthisis, still the palliative good which is derived from it, renders it a valuable addition to our list of remedies, and if the cure of phthisis is to be effected through the strength of the constitution, it will furnish material assistance as a valuable tonic. I shall now make a few observations on the management of the apparatus where iodine is employed. I have had it at constant work for from eight to twelve hours out of the twenty-four. At night, when the patient is settling to sleep, the apparatus is suspended from the roof of the bed, and once arranged, it continues its work quietly and silently for four or five hours, while the patient, in a composed sleep, is all this time inhaling the medicated air. In the morning, for three or four hours before the patient rises, it is again at work ; and if necessary, in the mid-day, while the patient reads at a table, or what is better, reclines on the bed, with the curtains drawn round three of the sides. The rate of evaporation, which generally gives a sufficiently strong impregnation to the air, is, when the tincture of iodine drops from the cotton wick at the rate of from six to eight drops per minute. At this rate about six drachms of the tincture will be evaporated in an hour, and as every particle of the iodine is diffused in watery vapour through the air, there are thus diffused in the minutest state of division through the air, in every hour, about thirty grains of iodine. If we suppose the patient to inhale only one-twentieth of the iodine evaporated, he will inhale in each hour, and apply to the diseased surfaces one grain and a half of iodine in a state of the most minute division or solution. This quantity we know is quite sufficient to exert a decided action upon scrofulous ulceration, for we find on reference to Lugol's valuable work on the employment of iodine in scrofula, that in external scrofulous ulceration, the preparation of iodine which is found beneficial, is a solution which contains only about three grains of iodine in each pint of fluid. The duration of the inhalation can of course be extended at pleasure.

I may, in conclusion, observe, that since iodine and other

agents exert so powerful a control over diseased secretion, and unhealthy ulcerations of other parts, when locally applied, there is at least a warrant for hoping, that when we have the means of fairly bringing the same agents to act locally, and for a sufficient length of time, upon similar diseased actions in the lungs, we may expect, at least in some instances, similarly gratifying results. The apparatus I have described furnishes us with means of doing this ; and I hope at some future time to be able to bring forward a detailed account of the results. I shall esteem myself very fortunate, indeed, if I add ever so little to the means we possess of combating that opprobrium of our art, consumption ; and to those, if there be any, who would discourage or reprobate new attempts at cure of this disease, I would say in the words of Beddoes, “When men reprobate new methods, as unjustifiable *experiments*, let them, in the name of common sense and humanity, be asked the following simple questions: Whether anything can be more unjustifiable, than perseverance in *experiments* of which constant repetition has rendered the failure certain ? Whether, in such a disease, any innovation that does not increase pain and shorten life, can be an object of just apprehension ? Whether, after failure, there do not remain to him who employs extraordinary measures, just the same resources as to the adversary of improvement ? And, whether the innovator is likely to be so stupid as not to know how to draw the utmost advantage from the saline draught, the chalk mixture, the syrup of poppies, the acid of vitriol, and that whole tribe of palliatives, which, between ourselves, gentle reader ! an observant nurse may soon learn to administer to nearly as good purpose as the most specious doctor.”

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3. *On granular Degeneration of the Kidnies, and its Connexion with Dropsy, Inflammations, and other Diseases.* By ROBERT CHRISTISON, M.D. F.R.S.E., President of the Royal College of Physicians of Edinburgh, Professor of Materia Medica, and one of the Professors of Clinical Medicine in the University of Edinburgh, 1839.

It was originally our intention to have drawn up, from the works placed at the head of this article, a digest, concise but complete, of all the multiplied and important discoveries which have enriched the pathology of the urinary apparatus, since the publication of Dr. Prout's admirable work. But when we came to arrange the notes which we had collected for this purpose, we found them to contain such a vast variety of valuable matter, that they could not, even in their most condensed form, be comprised in the space to which we are necessarily limited. To gloss over these works with a merely passing notice, would be unjust to their authors and the subject; we have chosen therefore a middle course, and selected such topics as appear to us of paramount interest, being reconciled to the neglect of others, by the conviction, that our readers will not fail instantly and diligently to peruse the original volumes.

It would be unprofitable for us to enter into an analysis of these various works, pursuing the particular arrangement of

each author ; we prefer instituting a method of our own, and placing the selections which we shall display before our readers under the separate heads of Anatomy, Physiology, Pathology, and Diagnosis ; by this means we flatter ourselves with the hope of being enabled to condense a greater quantity of material in a much smaller bulk.

Anatomy of the Kidnies.

Dr. Willis, p. 19, gives a concise and excellent description of the structure of these organs according to the views originally promulgated by Mueller ; but, notwithstanding the care with which the structure of these organs has been investigated, many important anatomical considerations have been overlooked, or erroneously stated. Thus their normal weight, the relative proportion of their elements, their consistence, colour, &c., have not hitherto been made the subject of careful observation. To these points M. Rayer has directed his attention, and we shall here condense the results to which he has arrived.

Weight.—The kidneys were prepared by removing their fibrous tunic, and cutting the ureters and vessels as close as possible with scissors. It was then ascertained, first, that kidneys taken from different healthy persons of the same age vary much in weight. Second, that in infants the rapidity of growth differs so much in different individuals, that a child two days' old, sometimes, was found to have larger kidneys than one aged seventeen days. Third, that atrophy, or hypertrophy of one or both kidneys can only be determined when present in a very remarkable degree. Fourth, that these organs in women, and the aged, are usually lighter than in adult men ; but in the aged they are heavier than in youths. Fifth, the left kidney is heavier than the right. Sixth, kidneys similar in size may differ in their density, and the weight is liable to vary in the same kidney from various causes, such as the quantity of blood, the rapidity of evaporation, &c. ; and lastly, it is always to be taken into consideration, before we pronounce any very great difference in weight between the two kidneys, to be a morbid phenomenon, whether the amount of secreting substance be more or less than equivalent to that of two organs of an ordinary weight.

Volume.—In opposition to the general opinion, M. Rayer asserts the left kidney to be larger than the right. Meckel has, indeed, stated, that there is no difference in size between them. Adults have the largest kidneys ; these organs diminishing in age, as their density increases.

Colour.—In the surface of the kidney we may perceive little

spaces, rounded, angular, or serrated into each other, about 0.4 of a line in diameter. These spaces have a blanched or greyish appearance, more uniform than the vascular ramifications which surround them. In certain cases of hyperemia, these little polygonal spaces present, in the centre of each, a red dot, (glandula of Malpighi,) perceptible by a lens, or even the naked eye; but it cannot be seen in the normal kidney. The size, and degree of projection of these little spaces are always found to vary; but in disease this variation becomes exaggerated.

When we examine a section of a kidney, we generally find, especially in phthisical subjects, the extremities and posterior part more coloured than the rest; but it is to be recollected that this is, for the most part, cadaveric. M. Rayer enters into a minute description of the different degrees of normal coloration, not only in the cortex and tubuli, but also in the apices and bases of the papillæ, and different portions of the cones in the adult and fœtus. This degree of refinement may be questioned, as regards its practical utility; but it is better to be too accurate than remiss.

Relative Development of the Cortical and Tubular Substances.—In the fœtus the cortex is less developed than in the infant, and in the latter less than in the adult. The increased development takes place principally between the cones, thus removing the lobulated appearance which this organ presents during the intra-uterine life. The papillæ of newly-born infants project more into the calyces than is observed in adults; but in the latter they are sometimes depressed in an exaggerated degree by the presence of accumulations in the calyces. The uriniferous conduits are never apparent, even with a lens, in health; but in disease they may become enlarged, sometimes obliterated; occasionally they become swollen into vesicles. In examining the cortex of a healthy and full-grown kidney, we find it to present partly a striated, and partly a granular appearance; the latter is chiefly observed between the cones, while the striated portion is more superficial, more vascular, and more subject to lesion. The real thickness of the cortex is constantly liable to be disguised by the presence of sanguineous, serous, or urinous congestions. The medullary portion is rarely the seat of primitive lesion; but, on the other hand, cartilaginous bodies are most frequently found in the tubuli.

Consistence.—The assertion made by Meckel, that the kidneys are firmer than other glands, must be taken with some modifications. The cortex is less consistent than the medullary portion, and not more so than the liver. Bichat's aphorism, that the kidneys of the aged are less consistent than those of the adult, is incorrect. M. Rayer finds that the cortex in-

variably tears in the direction of the striæ, but could never get it to rupture from the bases of the cones, in the manner described by Bertin.

With respect to the accessory organs, we find little that is new or important. M. Rayer, in opposition to Bichat, believes in the existence of a proper cellular membrane : he asserts that the renal veins are more subject to disease than the arteries. We may also notice his confirmation of M. Comhaire's experiments, who found that dogs exhibited but little sensibility when the kidneys were pinched and torn.

Much, if not, all of the foregoing particulars are probably already familiar to the excellent anatomists of this country ; but M. Rayer deserves great credit for the extent and accuracy of his researches ; and the brief sketch of his results which we have here given will enable us with greater facility to describe the pathological appearances which are represented in the various works before us.

Physiology of the Kidnies.

One of the most remarkable differences between animals and vegetables, consists in this : that in the latter, molecules, once deposited in the solid tissues, are for the most part liable to no further change ; while in the former, to borrow an expression from Cuvier, there seems to be a continual vortex of renewal and decay, in which particles are being alternately attracted from, and thrown back into, the nourishing fluid. This law it is, which absolutely limits the maximum size of every species of animal ; while the plant must continue to enlarge, until accident or some necessary condition of its organization deprives it of life. It is for this reason, likewise, that we find so marked a discrepancy between animal and vegetable respiration ; in the one case, carbon is eliminated, in the other it is absorbed ; a beautiful contrivance, by which, not only at this time, both hemispheres of the living world compensate for each other's influence on the composition of the air ; but by the instrumentality of which, it is reasonable to believe, the præadamite atmosphere was originally fitted for animal existence, in the very process of storing up those enormous heaps of bitumen, that now enable this generation to work its marvels with gas and steam. We allude to those acknowledged truths, on account of some obscurity which appears in the introduction to Dr. Willis's work, wherein it would seem to be advanced, that animals and vegetables are subject to the same laws of growth and respiration.

The following extract is taken from Dr. Willis's work, page 17.

“ Among animals, carbon and nitrogen, if not universally and alike elements of nutrition, still are they both universally elements of composition : and accordingly, we observe not only an apparatus for purging off the carbon, *as among plants* ; but one in addition for abstracting the nitrogen. A *lung*, or something analogous to it, is the apparatus in reference to the carbon ; a *kidney*, that in reference to the nitrogen. The lung and the kidney, consequently, taken together, constitute the apparatus of rejection among animals.”

May not the liver and skin be considered organs of elimination ? We suspect that Dr. Willis has been led to confine this function to the lungs and kidneys, from M. Chossat's experiments, of which more anon. But we may here ask, why two of these glands, the liver and lungs, secrete from venous blood ; while the others secrete from arterial blood ? Jacobson announced in 1813, that in birds, reptiles, and fishes, the kidneys are supplied with venous blood, but this has not since been confirmed.

“ Recent researches have also shown that we descend very low in the scale of creation, before we lose traces of a kidney, or apparatus for freeing the system of nitrogen. The long, and from their magnitude alone, evidently important Malpighian canals in insects, have been found to secrete, and even to contain, calculi of uric acid. The same substance has also been discovered in the matter elaborated by the *saccus calcareus*, the *organe de la viscosité* of Cuvier, of mollusca ; and as in the case of the lung, when we have lost traces of a concentrated and special organ, that might be called a kidney, we find evidences of a means diffused through the system for accomplishing the important end of azotic purgation.”

Dr. Willis might have added, in proof of the necessity of this function, that death, with cerebral symptoms, supervened a few days after excision, or mortification of the kidneys. And again, as the third kind of evidence which is required to establish the relative importance of organs, he might have shown the constant co-existence of kidneys or analogous organs, with a vascular circulation, with the dorsal vessel of insects ; in the chick on the sixth day, or in the form of “ *corpora Wolffiana*,” according to Mueller, even on the third day of incubation.

Both M. Rayer and Dr. Willis quote M. Chossat's experiments, which lead to the belief that the food may be regarded as finally decomposed by the action of the animal organism into carbonic acid and urea. Knowing the difficulties by which any investigation of the kind must necessarily be surrounded, we have the less hesitation in instituting the inquiry—If this be so, from whence comes the bile ?

M. Rayer has collected, from different sources, instances

where the solid constituents of the urine remained unchanged, notwithstanding prolonged abstinence. He also demonstrates, that the specific gravity of this secretion has no relation to the density of drinks. These considerations add weight to the opinion expressed by Mueller, that the principal elements of the urine are not formed out of the surplus and useless constituents of the aliment, but proceed from the decomposition of the formative parts of the blood and organs.

The compensating relation which exists between the skin and kidney, the influence of cold in increasing diuresis, and the warmth of bed in diminishing it, have long attracted the attention of observers. Comparative physiology demonstrates this connexion in a still more evident manner: the large kidneys of aquatic mammalia, the same organs composed solely of cortical substance in animals, whose cutaneous transpiration is obstructed by feathers or scales, or the element in which they live, sufficiently prove its truth. We do not think that Dr. Willis has brought this important relation prominently enough forward.

It is a doctrine of many physiologists of the day, remarkable for its beautiful simplicity, that the blood contains the proximate elements of all the tissues and secretions which are merely separated from it. We should not, nevertheless, suffer ourselves to be led from the single-minded search for truth, by any predilection however favoured. We cannot disguise from ourselves the fact, that neither urea nor uric acid have hitherto been detected in healthy blood. M. Le Canu failed to detect urea in a thousand grains of human serum.—*Etudes Chimique sur le Sang Humain*, 1837.

M. Rayer has found the minimum quantity of urine discharged in health, to be twenty-one ounces, the maximum, fifty-seven ounces. He fixes its standard specific gravity at 1,018; Dr. Willis thinks it to be 1,015, Dr. Christison, 1,024 or 1,025, Dr. T. Thompson, 1,013. The only result to which these very varied data can lead us, is, that only a very high or very low density can be considered as a morbid sign.

We usually find, in works devoted to the consideration of urinary diseases, a table constructed by Dr. Henry, for the purpose of showing the quantity of extract, capable of being obtained from a pint of diabetic urine, varying in specific gravity from 1,020 to 1,050. Dr. Willis has, unaccountably to us, transferred this table, from its application to diabetic urine, to the same secretion in general, and he has, in so doing, acted in our opinion erroneously; at least we have found that a specimen of phosphatic urine, pale and little acid, of a density 1,012, which according to the table, should have yielded 3,1 per cent.

of extract, only gave 2,7. In another instance, a highly coloured and acid phosphatic urine, sp. gr. 1,018 (a variety, by the way, not alluded to by either Dr. Rayer or Dr. Willis) gave 3,88 per cent, instead of 4,7 according to the table. In the urine of diabetes insipidus sp. gr. 1,006, we procured 0,83 of extract, when 1,5 was indicated by the table. And again, in a specimen loaded with pale lithates, sp. gr. 1,035, when 8,8 would be the calculated proportion, we obtained but 6,77.

Hippocrates, to whom the history of renal disease owes much, originated the opinion, that the urine of infants is naturally thick and troubled, and its being otherwise is a bad sign. This notion has been of course the property of semeiologists, and the theme of their commentators, generally without examination of its truth, and it has been repeated even in modern works. It is, however, utterly without foundation; Messrs. Rayer and Guibourt have observed that the urine of sucking infants is colourless, without reaction, with an odour at first like veal broth, afterwards becoming urinous, and the extract yields very little nitrate of urea. It was announced by Fourcroy, that the urine of children contains little or no urea, no phosphate of lime, and that it is charged with benzoic acid:—likewise, that the urine of the aged contains an excess of urea and phosphate of lime. Now, Messrs. Rayer and Guibourt found that the urine of children, after being weaned, contained plenty of urea, and they could detect neither benzoic nor hippuric acids, while they also found rather a diminished quantity of uric acid and phosphate of lime in the urine of octogenarians.

It has been hitherto a most difficult problem,—what keeps uric acid dissolved in urine? Dr. Willis conceives, that it has been explained by M. Duvernoy, of Stuttgart, who has been led to conclude from certain experiments, that the colouring matter of the urine is in this case the solvent principle; M. Rayer still adheres to the opinion of Dr. Prout, that it is a superlithate of ammonia; but both authors have apparently discarded the supposition, that purpuric acid is ever formed in the urine. We cannot approve of Dr. Willis giving a name to a principle so ill-defined as the colouring matter of the urine—especially as Berzelius had already declined doing so.

We fear that Dr. Willis has been premature in admitting Mr. Brett's hypothesis, that carbonic acid is the solvent of the phosphates in those cases where heat causes their deposition. An experienced friend lately instituted, at our request, an experiment, similar to that on which Berzelius founded his opinion, with a specimen of this kind of urine; upon removing the atmos-

pheric pressure, no bubbles of gas could be perceived ascending, nor did any precipitation take place, although the latter formed copiously by ebullition. We do not pretend to consider such an experiment decisive, of the absence of carbonic acid, but it justifies at least our caution in admitting its presence.

Pathology of Renal Diseases.

Diseases of the kidneys have been divided by M. Rayer into ten groups. 1. Wounds, contusions, &c. 2. Nephritis. 3. Pyelitis. 4. Renal hemorrhage. 5. Hydronephrosis. 6. Diseases of the vessels. 7. Transformations and degenerations. 8. Foreign bodies, animate and inanimate. 9. Congenital anomalies. 10. Alterations of secretion.

Sauvage had already recognized three forms of nephritis. "Nephritis vera," "N. calculosa," "N. arthritica." For the purpose of explaining M. Rayer's views, we extract the following passage from his work.

"Hitherto, there have been confounded under the general name of nephritis, inflammations of various tissues, which enter into the organization of the kidneys. Those of the renal substance, properly so called, those of its membranes, vessels, and excretory ducts. On the other hand, recent observations have brought to light new varieties of inflammation of the kidneys, very distinct in their specific characters, while having the same seat, they must necessarily be reunited into one general description. This double circumstance has determined me to establish divisions, without which it would be impossible to characterize the various elements of a pathological group so complicated, to expose the differential diagnosis of those various lesions of which it is composed, and consequently to indicate the therapeutic rules, applicable to each, at different stages: in short, not only have I been led to divide renal inflammations according to their situation, but again to distinguish in these anatomical groups, numerous species; some according to the nature of the causes which produce them, and others according to the particular nature of the malady."

According to M. Rayer's classification, the group "Nephritis," confined to inflammation of the cortical and medullary portions of the kidney, comprehends—1. Simple Nephritis; 2. Nephritis from morbid poisons; 3. Arthritic Nephritis; 4. Albuminous Nephritis. The next group "Pyelitis," inflammation of the mucous membrane lining the calyces and pelvis, is divided into 1. Simple Pyelitis; 2. Blennorrhagic Pyelitis; 3. Calculous Pyelitis; 4. Hæmorrhagic Pyelitis. Perinephritis is the name given to inflammation of the fibrous and cellular tunical, and the extra renal adipose tissues. M. Rayer continues:—

“Not only are inflammations in these three groups very distinct by their situations, but also they have proper anatomical characters, and each presents during life particular symptoms; moreover, in the same way as bronchitis, pneumonia, and pleurisy are sometimes united, so it is not unusual to observe at the same time, and in the same kidney, inflammation of the two substances of the kidney, of its excretory ducts, and enveloping membranes; to this I have given the name of pyelo-nephritis.”

Although well aware of the advantages to be practically derived from the distinct recognition of different diseases, it may not be presumptuous for us to object to the excessively vague use of the term *inflammation* employed by M. Rayer. We are inclined to agree with Dr. Christison, that the name of *Albuminous Nephritis* given by M. Rayer to what is commonly called “Bright’s diseases of the kidneys” is improper, as this gentleman remarks:—

“Its inflammatory character in many instances may be doubted, and besides, albuminous urine seems to be secreted in at least one other variety of inflammation of the kidneys, namely, inflammation of its pelvis.”

To return to M. Rayer.

“The diseases reunited in this group, (Nephritis,) distinct by their nature, sometimes by their causes, always by their symptoms, and by the appearance of the kidneys after death, have for a common anatomical character at their invasion, a partial or general hyperæmia of one or both kidneys, which are found heavier and more voluminous than in the healthy state. This hyperæmia is followed, and still more frequently accompanied sometimes by a partial anæmia, sometimes by purulent deposits, or by deposits of coagulable lymph, or other elements of the blood; sometimes by induration, by softening, or by gangrene of the affected parts.”

“The results which follow hyperæmia are not uniformly the same, and do not produce themselves with the same frequency in the different species of nephritis of which this group is composed; there are even alterations and phenomena which are only observed in certain species; purulent points, layers, or deposits, are a frequent termination of *simple nephritis*; in *gouty* or *rheumatismal nephritis* we remark sometimes deposits of plastic lymph, in the cortical substance of the kidneys, and grains of uric acid in this substance, or in the papillæ: gangrene and softening appertains more especially to *nephritis* resulting from *infection*, than to any other species. Anæmia consecutive to hyperæmia, with augmentation of the weight and apparent volume of the kidneys, as well as whitish spots or granulations, are the appearances the most common of *albuminous nephritis*. Induration, with decoloration of the kidneys, shows itself in all the species of nephritis, except those which are produced by

morbid poisons, and in which the duration of the disease is rendered too short by the rapidity with which death supervenes."

The following is M. Rayer's definition of *simple nephritis*:

"All inflammations of the cortical and tubular substances of the kidneys, produced by a mechanical or accidental cause, and which are independent of a constitutional disposition, of diathesis, or of the action of a morbid poison."

This group he divides into *simple acute nephritis* and *simple chronic nephritis*. We shall condense from his work the anatomical appearances observable in each of these diseases, only regretting our inability to do justice to these beautiful and accurate descriptions. Examples of each lesion are most exquisitely depicted in the accompanying atlas.

Simple Acute Nephritis.—First. The volume of the kidney, or of part of it, is increased, sometimes, although rarely, to triple, or quadruple, its normal dimensions.

Second. At the invasion, the affected parts present a morbid redness, or the brown of ecchymoses; the cortical vessels are more apparent, and the small polygonal spaces (page 108) are well marked. Dots of a lively red, intermixed with black dots, and vesicles are perceptible; these red dots being sometimes surrounded by an extremely delicate vascular network, visible by a lens. These red dots, sometimes isolated, sometimes disposed in lines, more rarely in groups, are no other, according to M. Rayer, than the *glandulæ of Malpighi*, very much injected. These sometimes appear also in a section, or upon the surface, as small black dots, either isolated, in groups, or in striæ. The section of the cortical substance also exhibits a great number of red dots, the orifices of divided vessels. Sometimes the surface presents a red unequal tint, scattered with small patches of a more lively red; these patches are formed by the venous plexuses surrounding the small polygonal spaces, which, strongly injected, produce a true imbibition of blood. Again, certain instances of morbid redness in acute inflammations are the results of ecchymosis, disposed in spots, lines, or bands surrounding the base of purulent infiltrations.

Third. As a consequence of acute inflammation, the kidneys, augmented in weight and volume, sometimes present a red induration of both substances; this is frequently very general; the red dots are always very apparent; a section, when compressed, yields generally more blood than natural; sometimes, however, when very hard, red, and friable, very little blood exudes; and it can never be expressed as easily as in passive hyperæ-

mia, such as may be seen after diseases of the heart. Sometimes we can discover amid the red induration, scattered anæmic patches, equally firm and hard; sometimes, among large anæmic portions, there are patches of a morbid redness, with ecchymosis, or purulent dots. The red patches, and more rarely the blanched patches, often elevate themselves in relief on the surface of the kidneys, on which they form slight eminences, flattened, or more rarely botryoidal. Again, in acute supervening on chronic nephritis, we often find a mixture of anæmia and hyperæmia; or complete decoloration of the cortical portion, the surface being equally mamillated. (Are not these the appearances frequently described as present in the *acute or incipient* stage of granular degeneration? and let it be recollected, that the urine in these cases most frequently contains blood, and is of course albuminous.)

Fourth. Deposits of pus are more frequently found in the cortical than in the tubular portion; it requires much attention, frequently, to recognize these deposits; sometimes they are not larger than the head of a pin, situated in the centre of the little polygonal spaces, and appear to the eye like grains of white sand, surrounded by a reddish-brown ring; frequently they are intermixed with little red dots, in which pus has not been deposited. These appearances are most common in the nephritis of new-born infants.

Purulent deposits, when they occur in the adult, after very acute inflammation, are usually much more apparent; of a size nearly equal to that of a large pustule of impetigo; they are sometimes disseminated, or in groups, or in layers of a greater or less extent; lastly, the pus may be contained in abscesses of the volume of a nut, or even larger; but this is very rare, the cases usually recorded as abscesses being usually purulent collections in the pelvis or calyces.

The solitary purulent deposits are frequently surrounded by a small areola, of a lively red; the base of the groups of pustules is frequently formed of a red circle or band, which loosens itself from the surrounding parts, when the inflammation becomes more general. Upon making a section, it is found that these deposits penetrate to an unequal depth, into the thickness of the kidney. Whenever the inflammation is very acute and profound, portions, more or less considerable, of the cortex become infiltrated with pus. These parts are softer, and more easily torn than the surrounding healthy tissue; and from the ruptured surface we can collect drops of thick pus with the scalpel. It is very rare for the medullary substance to be more infiltrated with pus than the cortical; M. Rayer, however, has

seen and figured two such cases, in one of which the papillæ were ulcerated.

Fifth. Gangrenous ramollissement is a very rare termination of acute simple nephritis. Plastic lymph, analogous to the fibrinous deposits found on the spleen after acute splenitis, are perceived frequently on the kidney after wounds or lacerations; this deposit is common in gouty nephritis.

Simple Chronic Nephritis.—Previously to laying before our readers the anatomical characters of this disease, we must premise, that the disease described under this name by M. Rayer, is utterly distinct from that to which the title is usually affixed. The lesion hitherto designated *chronic nephritis*, is truly a *pyelitis*, characterized by purulent urine and a tumour in the region of the loins. The present disease is that to which the name of phosphatic diathesis has been heretofore applied. The arguments for this change, which are furnished by M. Rayer, we shall give hereafter; but for the present we wish to draw the attention of pathologists to the facility with which these morbid appearances may be mistaken for many forms of what has been hitherto called *granular degeneration*; especially the third variety described by Dr. Bright.

First. When this affection of the kidney is general, the bulk is most commonly diminished; there are, however, exceptions to this; the cortical substance occasionally offers a true hypertrophy, on which are disseminated prominent white patches, which appear to be composed of a fibro-cellular matter, placed between the substance of the kidney and its envelope; sometimes, kidneys of an ordinary volume present, externally, spots of a yellowish-white, formed by a matter which has the appearance of old deposits of lymph. In general the tissue of the kidneys is hardened, and has an increased specific gravity.

Second. The surface, usually smooth and polished, is now slightly granulated, more or less rugged; or it presents a marbling, variable as to colour, form, and size.

Third. When an acute attack, a little before death, supervenes on old lesions, there is found a red coloration disseminated through whitish bands, or in mamillated indurations.

Fourth. An anæmic decoloration, with diminished bulk and increased specific gravity, is a common appearance, distinguishable from the anæmia resulting from hæmorrhage or phthisis, by the presence of superficial granulations. Conjoined with anæmia, there are often red and melanic patches, similar to what are observed in acute nephritis. Rarely the anæmia extends into the tubular substance; still more rarely is there found the tubular substance decolorized, with superficial vascularity.

Fifth. Consecutive to chronic nephritis, there is frequently a partial or general atrophy, which may be distinguished from arrest of development, or atrophy, from compression, by the puckered and rugged appearance of parts, and the unnaturally distinct and relatively voluminous appearance of the superficial vessels. Sometimes when the cortical substance is atrophied, we recognize cicatrices, forming gray, brown, or red depressions, to which the fibrous membrane is very adherent, or separated by a thick and dense cellular tissue. These depressions are sometimes so deep, that the base of the cones are in contact with the fibrous tunic. Similar depressions are apparent after rheumatismal nephritis. Sometimes the bottoms of these depressions are grey, or greyish black, or red; sometimes they contain a greater number of vesicles; the morbid tints of these depressions frequently prolong themselves into the thickness of the kidney, and present on a section, the form of a small cone, whose base corresponds to the depression.

Repeated pregnancies, strictures of the urethra, maladies of the prostate, bladder, and ureters, wounds of the kidney, complicated with foreign bodies, calculus, &c., are the most ordinary causes of chronic nephritis. Simple acute nephritis frequently follows wounds and bruises of the reins, calculi, worms, and retention from diseases of the urinary passages, or genital apparatus, cerebro-spinal maladies causing retention; rarely, stimulating diuretics, the impression of cold and moisture, or contiguity to lumbar abscesses, or local peritonitis; it often occurs like pneumonia, erysipelas, &c., towards the close of many acute and chronic diseases, the last link in the chain of morbid action—the immediate precursor of death.

Simple nephritis occurs most frequently in the aged—a fact explicable by the comparative frequency of urinary disease. Maladies of the uterus and ovaries, gestation, and parturition are as fruitful sources of this disease among females, as strictures, enlarged prostate, and calculi are among men.

All those causes which equally affect both kidneys, most usually produce *double nephritis*, except cantharides and cold, which frequently act but on one kidney: after wounds, bruises, calculi, affecting only one kidney, a compensating action of the other kidney is generally produced; but in some rare cases, when the other kidney becomes inflamed, this is found to be slight and transient.

The danger to human life, which simple nephritis produces, is in a great measure proportionate to the cause. When resulting from a wound, it is not necessarily severe, unless danger arises from the nature of the wound itself; when from cold and moisture it is not bad, unless it attacks both kidneys; when

from urinary obstructions, it is dangerous, not intrinsically, but depending on the gravity of the organic cause. Nephritis, coming on after operation for stone, lithotomy, or even exploration with a sound, when calculi are present, is often promptly fatal; this sudden and fatal termination is very frequent in old men who have suffered from incontinence of urine, followed by a few days' retention.

Granular Degeneration of the Kidnies.—This disease, whose existence was first announced by Dr. Bright in the year 1827, and whose history has been since further elucidated by the labours of the same learned physician; of Drs. Christison, Gregory, Osborne, &c. in Great Britain, and of Messrs. Rayer, Solon, Sabatier, &c. in France, is ascertained to be so generally prevalent, and to occupy so prominent a position in the catalogue of human ills, that it must remain for ever unaccounted for, how it had so long remained concealed from the observation of physicians; and how it has failed since its discovery to attract a more general and profound interest. Dr. Mateer has shown, that out of 2000 cases of all diseases, except fever, occurring during a period of twelve years, one-sixth were cases of dropsy; and Dr. Wells has proved, or at least it may be proved from his researches, that fifty-five per cent. of all dropsies are connected with diseased kidneys. Dr. Osborne was enabled to state in 1834, with respect to this disease, that “the number of observations recorded must be admitted to have been greater than has within many years been brought to bear on any one individual proposition in medical science.”

“The designation of the disease has been felt as a stumbling block by every pathologist who has written upon it.” Dr. Bright did not venture to name it all; M. Solon has termed the primary disease *Albuminaria*, from its principal symptom; M. Rayer terms it, as we have already remarked, *Albuminous Nephritis*; and Dr. Christison gives it the name of *granular degeneration*, admitting, however, that it is in some respects objectionable.

When this disease was first described, it was held to be merely subsidiary to dropsy, but dropsy is, however, no more than one of its symptoms, or rather one of its secondary affections. On this subject Dr. Christison says:

“There seems a decided advantage in discussing the disease as one primary and idiopathic, which engenders many secondary disorders, and dropsy among others. It is thus only that correct ideas will be formed of its pathological relations. These relations are becoming more and more numerous and interesting every day; so that I am much mistaken if there is any chronic disease of the

viscera, excepting pulmonary consumption, which presents features of more importance, either in itself or on account of its intricate connexion with a host of common disorders, than granular degeneration of the kidneys."

We need not apologize for quoting again from Dr. Christison.

"This disease is a morbid degeneration of the kidneys, whose exact nature has not yet been ascertained. In its progress it is essentially chronic; the morbid deposit appears to be always thrown out gradually and slowly; yet it is occasionally preceded, and often throughout its course, becomes for a time accompanied both by local and general reaction. It is attended by irritation of the kidneys, of that kind which is characterized by the excretion of blood or of its albuminous portion. It tends to diminish or suppress the excretion of the solids of the urine, both in the early stage by causing functional disturbance, and likewise in the advanced stage by inducing extensive derangement of organic structure. It tends singularly to impoverish the blood, by depriving it of a large proportion of its colouring matter.

"Ultimately its intrinsic result is to overwhelm the functions of the brain, probably in consequence of the blood, the proper stimulant of that organ, being on the one hand poisoned by the accumulation of urea, and deprived on the other hand of its colouring matter. But it also engenders in the constitution a certain infirmity or susceptibility; which, while indicated in some measure by a proneness to diseases at large, is more peculiarly characterized by a liability to serous effusions, as well as inflammation of the serous membranes and internal viscera. And it is through the intervention of these secondary circumstances, that the disease of the kidneys most generally proves fatal; much more so than by its intrinsic consequences, the direct annihilation of the cerebral functions."

Dr. Bright originally, and many authors, including M. Rayer, since, have variously divided this disease into several forms, according to certain morbid appearances; but Dr. Christison, finding how indifferently all these forms reveal themselves by a common combination of symptoms, and that whatever variation of symptoms may occur during life, no corresponding lesion has been constantly observed after its extinction, thinks:

"That there can be no impropriety in considering the whole forms for the present under one head. And to avoid pathological error, as far as possible, it may be preferable, in following out the disease in its progress through successive stages, to look rather to the destruction of the healthy structure, than to the morbid deposit. In this point of view the progress of the disease may be conveniently divided into three stages; the incipient stage, which in some instances, if not in all, is a state of congestion or reaction; the middle

stage, when the cortical structure of the kidney is nearly or entirely destroyed; and the advanced or final stage, where the tubular masses are also invaded, and more or less obliterated."

We have already quoted M. Rayer's opinion, that *albuminous nephritis*, in common with *true* inflammations of the kidney, usually commences with hyperæmia, and in describing the morbid appearances presented by *acute simple nephritis*, we have sufficiently indicated those that are observed in the *incipient stage*, described by Dr. Christison. In fact, we have not evidence before us to enable us to distinguish between those two diseases. We do not mean to say that they are identical; but we cannot see any reasons for considering Dr. Christison's first and nineteenth illustrative cases as instances of granular degeneration of the kidneys, which are not equally applicable to the supposition of their being cases of simple nephritis. Is it not reasonable to think, that granular degeneration of the kidney, like pulmonary tubercle, is usually, but not necessarily complicated during its incipient stage, with acute inflammation? But the signs and symptoms of this inflammation are in either case peculiar to, and depending on, itself alone; and we can no more positively assert, in the one case, that it is the precursor of tubercular deposit, than we can affirm in the other, that it precedes granular degeneration. Indeed in the former instance, the seat of the inflammation during life, and the presence of miliary tubercles, not liable to be mistaken after death, furnish us with a means of certainty, that we have no reason to hope for in the latter.

The middle stage described by Dr. Christison, is that in which the deposition of granular or cheese-like matter, the only important and well established anatomical character of the morbid formation, seems to be for the most part confined, at first, chiefly to the cortical structure of the kidneys.

"In it the kidney is sometimes larger than natural, sometimes of the natural size, very rarely somewhat diminished. Its consistence varies: if enlarged, it is commonly softer than in the healthy state, at times even friable; if diminished, it is, on the contrary, for the most part rather firmer, at least of natural firmness; its colour externally is paler, sometimes uniformly greyish, greyish yellow, or yellowish red; more commonly of its usual brown tint, but of a pale shade, minutely mottled with grey or yellowish grey, and often traversed by white indurated streaks like cicatrices. The surface has a granular appearance, and is often actually rough, from a distinct granular structure."

The section of the cortical part appears broader than natural, sometimes of the natural breadth, sometimes much nar-

rower, and its breadth seems to depend upon, whether the kidney is enlarged or contracted. It is greyish, greyish yellow, greyish red, or reddish yellow, of an uniform, obscurely or distinctly granular texture, chequered occasionally with reddish or brownish spots. The bladder is generally found contracted and nearly empty, and there is rather less appearance than usual of vascularity, or injection of vessels in the various membranous textures of the body, a condition which affects the brain as well as the rest, notwithstanding that death usually takes place by coma.

The *advanced stage* is characterized by the tubuli being engaged in the disease. The size is most frequently diminished, the surface pale, lobulated, or botryoidal; the consistence usually increased.

“In the progress of matters, the kidney is sometimes seen converted into one entire mass of uniform granular, or homogeneous degeneration, with the exception of a single tubulus at one end, or perhaps, one at each extremity. It is usual to find one kidney more advanced in disorganization than the other, and in general this is the right.”

M. Rayer appears to think exposure to cold and moisture the most frequent cause of this disease. Dr. Bright attributes it principally to intemperance. M. Solon mentions four cases which were traced to mechanical violence; but, in this disease, as in phthisis, there must be a constitutional predisposition. Dr. Christison has “very little hesitation in putting down the scrofulous diathesis among the predisposing causes of granular disorganization of the kidneys.” Of ten fatal cases of phthisis, where the body was examined, M. Solon found phthisis to concur with granular degeneration in no fewer than five. We need not be surprised therefore, if, in the cachectic condition following scarlatina, a latent nephritis should occasionally supervene, only recognizable by the coagulability of the urine, and a diminution in its quantity and acidity, which may terminate in resolution, in chronic nephritis, or in granular degeneration, just as a pneumonia, under similar circumstances, may terminate in phthisis. The tenth and twenty-sixth cases recorded by Dr. Christison, appear to have been of this nature; the latter presented no evidence that we can recognize of granular degeneration having yet taken place.

The most frequent secondary disease with which granular disorganization is found to be complicated is dropsy; several pathologists, especially those of France, incorrectly consider this to be an essential character of the disease; such, however, according to the experience of Dr. Bright and Dr. Christison, is not the case. Next to dropsy, the most frequent complica-

tion is dyspepsia and chronic vomiting; less frequent, but still often enough to be considered common combinations, are organic diseases of the heart and liver, diarrhoea, (Dr. Christison), serous inflammations, (Dr. Bright,) catarrh, pneumonia, and chronic rheumatism. When death is not produced by some of these secondary affections, coma and apoplexy appear to be its natural termination. It is difficult to conceive how some of these secondary diseases can be produced, except it be as a consequence of that infirmity of constitution engendered by this disease, which renders the body prone to diseases generally, which is referred to in a quotation from Dr. Christison's work, already before our readers.

The membranes and parts external to the kidneys often share in their lesions; in acute nephritis, they are injected; in simple nephritis, whether acute or chronic, they are generally adherent, while in granular degeneration they can be removed with facility; in atrophy they thicken and sometimes undergo cartilaginous and osseous transformations; frequently they acquire blackish or reddish morbid colourings.

Inflammation of the blood-vessels is generally independent; but according to M. Rayer, granular degeneration is sometimes accompanied by renal phlebitis.

Alterations of the Urine.—This branch of pathology has been so much cultivated of late, so numerous are the discoveries with which the works before us abound, so important in the practical results to which they are likely to lead, that neither our abilities, nor the space allotted to us, will permit us to do more than allude to some controverted points which at present attract the attention of physicians.

An interesting controversy has lately existed between M. Quévenne and M. Donné, with respect to the nature of those amorphous deposits, which so frequently occur in acid urine. M. Quévenne asserts,—first, that the yellow, red, or pink amorphous deposits of Dr. Prout, thought by him, and more lately by M. Donné, to be urates, are essentially composed of uric acid and animal matter, provided that they are examined immediately after emission. 2. He admits that very rarely they may contain urate of ammonia. 3. He says that after they have been kept some time, they always contain ammonia, which, however, is derived from the decomposition of mucus, with which they have been mixed, (this is also the opinion of Berzelius.) 4. That under such circumstances they always contain certain blackish globules, of which more hereafter, (see p. 130.)

On the other hand, M. Donné argues, that these deposits are lithates, as Dr. Prout had previously announced, because in the first place, these deposits so readily redissolve by heat;

and secondly, because they are converted into crystallized uric acid, by the addition of even a feeble acid. M. Quévenne replies, that the hydrated state of the uric acid, and its combination with animal matter, explains both these phenomena just as well as the supposition of the deposit being a lithate.

We have already alluded to M. Duvernoy's views with respect to the connexion between the uric acid and colouring matter of the urine. Now he imagines, that when the colouring matter is in excess, the uric acid crystallizes, but when deficient, the deposit is amorphous. M. Rayer, probably influenced by certain hypothetical notions, which we shall explain elsewhere, coincides with M. Donné and Dr. Prout. This learned physician shows, that crystallized uric acid is deposited in pale phosphatic, albuminous, saccharine, or chylous urine, where the colouring matter is deficient; that in the highly coloured urine of cyrrhosis, amorphous deposits occur; and that in articular rheumatism, both amorphous powders, and crystals precipitate, from an urine that is highly coloured. He also repeated Berzelius's experiment, and states, that removing the mucus by filtration while the urine is warm, has *not* the effect of diminishing the proportion of ammonia. It is evident that this subject requires further investigation.

An opinion, which we believe originated with M. Solon, appears to be generally prevalent—that albumen in granular degeneration is vicarious of the secretion of urea. Berzelius had already stated, that in chronic hepatitis, dyspepsia, and towards the close of phthisis and hectic fever, a diminution of urea corresponds with an increase of albumen. But M. Rayer asserts, that in chronic gastritis, cancer of the stomach and phthisis, he has frequently observed diminished urea without albumen; and on the other hand, in renal hæmorrhage the urine contains albumen without decrease of urea. Dr. Willis says:—

“ We know that urea is not formed by the kidney, but only abstracted from the blood by its agency, and the presence of urea in the dropsical fluids of those who have been passing albuminous urine, indicates that this substance is produced in the body as usual. The conclusion would therefore be, that the urea was imperfectly and but partially withdrawn from the system in these cases, the elements of that which was abstracted appearing in the shape of albumen.”

The conclusion by no means follows, even admitting (which we do not) the truth of the premises. Dr. Christison, however, has shown that this doctrine is utterly untenable; in an inverse ratio with the excretion of urea, is its appearance in the blood;

the quantity of albumen, according to this physician's experience, diminishes in the urine as the disease advances, just at the period, be it remarked, when the urea diminishes also; treatment may diminish the quantity of albumen, without restoring the secretion of urea; at the commencement and during intervals of reaction, the quantity of albumen is large, without the urea being affected.

The possibility of the elements of milk being contained in urine, has been admitted by many of the most eminent physiologists. Burdach in his *Traite de Physiologie*, (French translation,) tom. vii. p. 244, describes several cases of what were supposed to be milky urine. M. Rayer has, however, not been able to ascertain the presence of caseine nor of the true milk globule in the urine, except in feigned cases; and he argues that all the urines hitherto called milky may be arranged in the five following series. 1st, *Cases of urine, in which we are assured, without, however, affording proof calculated to convince, of all the elements of milk, or at least caseine, having been detected.* 2nd, *Cases of urine of a milky appearance, coagulable by heat, or by acid, but in which the existence of caseine or of butter globules has not been stated.* 3rd, *Cases of chylous urine.* 4th, *Cases of urine, evidently purulent, and only called milky from their appearance.* 5th, *Finally, cases of urine containing suspended phosphates or urates, which on that account possess a milky appearance.*

Dr. Graves has mentioned, in one of his published lectures, a case in which caseine was alleged to have been contained in the urine, upon our authority (Clinical Lectures, American Edition, p. 317, 318.) M. Rayer quotes this case, and places it in his first category; we do not complain of this decision, because, as M. Rayer justly observes, in a disputed point of such importance, no fact should be permitted to occupy a station in science on the simple testimony of any man. We shall, however, state briefly the data upon which we founded our opinion; they may be liable to objections, but are at least worthy of consideration.

The urine in question was being passed in the quantity of eight pounds daily, its appearance pale and scarcely troubled, with an acid reaction, a density of 1.011; it had been examined previously, and said to contain sugar and albumen, with a very diminished quantity of urea. We shall not delay at present, on the process which convinced us, that the liquid which we examined, did not contain sugar, and did contain as much urea, as might be expected in so dilute a secretion. But to confine ourselves to the point at issue, this urine was coagula-

ble by nitric acid and galvanism, but was not affected by heat, *except* when acetic acid was added in excess, on which addition, and heat being applied, a copious curd rapidly formed. These experiments were witnessed daily in the wards of the Meath Hospital, by many of the attending pupils, who can testify to their accuracy. Dr. Bostock, in the admirable record of his observations, contained in Dr. Bright's Reports of Medical Cases, 1827,—observations which have not since been equalled for their extent and novelty, as well as philosophical caution,—mentions, p. 70, some analogous varieties of urinary secretion; and he even remarks, that when the urine is alkaline, this circumstance is not sufficient to account for the absence of coagulability, because, *the naturally albuminous fluids are always alkaline*.

These cases are not rare; M. Rayer must have met with them occasionally; we only differ in our mode of considering them. In a region so debateable as that of animal chemistry, we are not so presumptuous as to assert, positively, this animal matter to be caseine; but we do continue to believe, that its attributes accord more to the comprehension of caseine than they do to albumen. We are strengthened too in this opinion by a well imagined series of experiments, instituted by M. Rayer, by which he has ascertained that a minute quantity of nitric acid, or a larger proportion of phosphoric or *acetic* acids, deprives albumen of the property of coagulating by heat.

Let it not be supposed, however, that the existence of caseine in the urinary secretion must necessarily be accompanied by the milk globule. A transference of all the elements of a secretion is very unusual, if not unexampled, in cases of heterocrinia. The milk globule, as described in M. Donne's work, (*Du Lait, et in particulier de Celui des Nourricés*, 1837,) is composed of butter, perhaps with a membranous envelope, soluble in ether, and capable of being removed from cows' milk by filtration, leaving the caseine in solution.

Relations between the Blood and Urine.—The quantitative analysis of the blood and urine offer difficulties at present nearly insurmountable by most physicians; and this, together with the little allurements which this study affords to chemists, properly so called; and the opinion so general among physicians, that the blood, a real organ, suffers in disease modifications more grave than any which the chemist can discover; all these causes will adjourn, most probably, to a distant epoch, a scientific and general study of the alterations of these fluids. But the discovery of urea in the blood during some forms of suppression; that of sugar in the blood of diabetic patients;

that of uric deposits in gout ; and of fatty matters in both fluids during chyluria, are pathological facts of high importance, and which ought to attract observers toward similar researches.

The hematosine is diminished in the last stage of granular degeneration ; this, Dr. Christison considers as the best criterion of the progress of the disease. In diabetes and hematuria the blood globules are diminished in number, increased in size, and discoloured.

M. Rayer and M. Solon consider, that in granular degeneration the albumen is always diminished in quantity ; this is true in the early, but not (as Dr. Christison has shown) in the advanced stages. The specific gravity of the serum, which Dr. Bostock discovered to be reduced in a remarkable degree, is now ascertained to return to its former standard, according as the disease progresses.

The following propositions contain nearly every thing that is known with respect to the occasional presence of urea in the blood : First, urea has been found in the blood after the excision of the kidneys ; also in granular degeneration, when the daily discharge of it by the urine is diminished materially ; that is, to about one-third of the natural amount. Second, urea has been found in the dropsical effusions which so frequently accompany degeneration. (Marchand, in *Mueller's Archiv*. Jahrgang, 1837.) Third, urea has been found in the serum in cases of cholera, with the suppression of urine, by Dr. O'Shaughnessy, more lately by Dr. Rainey, (*Med. Gaz.* Jan. 1839.) Fourth, the disengagement of an urinous odour obtained by the reaction of nitric acid on the alcoholic extract of serum, is no proof of the existence of urea, because this odour is not developed with pure urea, and because a similar may be produced by the influence of nitric acid on substances which are found in healthy blood. Fifth, the formation of a white solid mass, by nitric acid acting on the alcoholic extract of serum, is not sufficient evidence of the presence of urea, unless we perceive in this mass very distinct crystals ; because certain fatty matters, soluble in alcohol, are capable of precipitating with nitric acid. We may also refer to Nysten's discovery of urea in matters vomited, (*Journ. de Chim. Med.* 1837.) He also mentions having detected it in the perspiration. It is by no means certain that urea is contained in the blood in all cases of ischuria. It is supposed to be present in the blood in gout ; and Dr. Rayer somewhat humorously remarks, that the priority of publishing this supposition has been a subject of controversy, without either candidate having the slightest evidence of its truth.

The serum and urine are both occasionally milky, from the presence of fat, which may be extracted by ether. The elements of bile have been discovered by many both in the blood and urine. In typhoid fevers the softness of the clot is found to correspond with albumen, and an excess of lithates in the urine. In purpura and scurvy the blood globules, and albumen filter into the urine.

The concretions of gout have been ascertained to be urates; and the deposit which sometimes occurs on the surface, is supposed to be the same. Galvani found a saline efflorescence on the serous membranes of birds whose ureters he tied. Marchand asserts that he has found uric acid in the purging of cholera.

Sugar has been detected in the blood of diabetic patients by S. Ambrosioni of Pavia; this discovery has been confirmed by Mr. Maitland and Mr. M'Gregor. We are surprised to find M. Rayer continuing the exploded doctrine, that the presence of sugar coincides with a diminution of urea; the contrary has been clearly proved by Dr. Kane in this Journal.

The above are nearly if not all the facts which have been ascertained respecting the relations of these fluids; we have compiled them chiefly from the works before us, not because they are very novel or important, but to shew how meagre is our present knowledge. Dr. Christison very justly says:

“ The pathology of the fluids, and more especially that of the blood, is little else than an untrodden region, upon which no one duly qualified can enter, without the certain prospect of amassing new and interesting observations.”

Diagnosis of the Diseases of the Kidnies.

The kidneys, hidden in the depth of the abdomen, and little accessible to direct investigation, communicate with the exterior by means of their secretion; and in a manner somewhat similar to that, whereby the physician is enabled, through the agency of murmurs communicated to his ear, to understand the progress of decay or resolution wrought within the chest; so must he seek, in the chemical and microscopic examination of the urine, the progress of alterations else concealed.

But as, in the one case, total reliance on the stethoscope, to the neglect of symptoms and other physical means, will lead to the gravest error; so in the other, it is not sufficient to confine ourselves to the examination of the urine, we must avail ourselves of all the other elements of diagnosis, inspection, touch, percussion, the observation of secondary diseases, and with such aids, the presence of albumen, the existence of crystallized uric acid, the alcalinity of the urine, &c., which, taken by

themselves, are phenomena common to many diseases, not only of the urinary passages, but of distant organs, may become valuable guides, leading us to the most important results.

If it be true that urinary diseases have not hitherto attracted the attention they deserve, much of this neglect is, doubtless, due to the difficulty and delay which hitherto rendered the habitual examination of the urine impracticable. But this objection is in a great measure removed; the investigation by the microscope of this liquid, commenced by Lewenhock, occasionally practised by Wollaston and Yelloly, and now nearly perfected through the labours of Messrs. Rayer, Quévenne, and Vigla, enables us promptly to know the quantity and nature of the elements of those deposits, which are suspended in the urine, or thrown down during cooling, or precipitated by reagents; or otherwise points out those cases, in which the employment of reagents is required.

M. Rayer justly observes:—

“ Without microscopic inspection, the search for organic matters, mucus, epithelium, small quantities of pus or blood, spermatic animalculi, &c., offers insuperable difficulties; and the determination of the amorphous, or crystalline matters of the urine, uric acid, urates, phosphates, cystine, &c., can only be executed by a long and complicated analysis, when we confine ourselves to the ordinary processes of chemistry.”

We shall extract from M. Rayer's work, the microscopic characters of some of the principal constituents of the urine, and for this purpose it will be convenient to consider the secretion, separately, according as it may be acid or alkaline; for although the animal principles, mucus, pus, blood, &c., are common to both these varieties, yet the saline constituents are commonly special; uric acid, and its compounds being generally found in acid urine, while the phosphates are usually predominant in this secretion when alkaline.

If we proceed to examine an acid urine by the microscope, we will find that although it may appear perfectly transparent to the unassisted eye, it will now present to us small lamellæ excessively thin, whose clearness is interrupted by very fine lines, with cut unequal margins, often plicate or volute, their colour white or greyish: these are the scales of epithelium, which are constantly being thrown off from the cuticular surfaces of the mucous passages.

Uric acid appears in the field of the microscope under the form of rhomboidal prisms, when present in quantity, but when very scanty as equadrilateral tablets. They are generally

coloured, but sometimes appear colourless, as when mixed with phosphate of lime.

The urates of ammonia and other bases appear as amorphous powders, but the addition of dilute nitric acid quickly transforms them into the rhomboidal prisms of uric acid.

Blood globules are often present in very minute quantity in certain diseases, in which case the microscope is necessary for their detection; they are sufficiently described in many physiological works, but when present in the urine they rapidly become deformed, often lose their central nuclei, present a dentated or cut, but never a *granulated* appearance, by which they are distinguished from globules of pus or mucus.

The globules of pus are regular, spheroidal, larger than those of the blood, their circumference defined, their semi-transparent surface is white and *granulated*; they are with difficulty distinguishable from the globules of mucus; ether, however, extracts from them a fatty matter, and nitric acid coagulates them.

M. Rayer thinks, that the normal mucus of the urinary passages contains no globules; this is remarkable, for healthy mucus from the nostrils contains globules in considerable quantity: in a ratio, however, with the irritation of the lining membrane the globules augment in number, and are so similar to true pus, as to be undistinguishable by the microscope. This has been designated by M. Rayer *mucopus*. Urine left to itself in free air, gradually decomposes, becomes alkaline, troubled, and deposits the double phosphate of magnesia and ammonium; many circumstances cause the rapidity of this change to vary. If it contains urates, blackish globules form in the deposit and cream, as well as on the sides of the vessel. These globules are composed of superurates, generally of ammonia; they are formed from the third as far as the twentieth day in acid urines; are black, brilliant, from 0,01 to 0,02 of a millimetre in diameter, sometimes isolated, sometimes grouped in innumerable quantities, and occasionally furnished with appendages of very fine and needle-shaped crystals in tufts. The neutral double phosphate of magnesia and ammonium forms while the urine is still acid, but in much greater quantity, according as putrefaction progresses. At this stage there may be seen very minute organic globules of an ovoid shape, whose composition is unknown.

Alcaline Urine.—Urine which is alkaline through a vice of secretion is generally little coloured, and slightly troubled at the moment of emission: the sediment of this kind of urine is usually composed of phosphate of lime, or a mixture of this salt with the double phosphate of magnesia and ammonium, very

rarely of the latter salt. In some instances it may contain urates, albumen, pus, &c. Phosphate of lime appears an amorphous powder under the microscope; it is soluble in dilute nitric acid. Neutral double phosphate of magnesia and ammonium is only found in alkaline urine at the moment of emission. It appears, in the field of the microscope, under the form of perfectly regular crystals, derived from the right tetrahedral prism; they are commonly mixed with amorphous phosphate of lime, very rarely (except when acid urine is getting putrid) with lithate of ammonia.

The bibasic double phosphate is commonly found in very alkaline or putrifying urine, under the appearance of needle-shaped crystals, grouped in the form of a star, at angles of 60° . Often the prisms assume a pinnated or bipinnated appearance, like the fronds of the polypodium or pteris. We have frequently observed them in the act of their formation, by dropping healthy urine on the object glass, and holding a feather moistened with water of ammonia, in its neighbourhood.

Octohedral crystals in the extract of urine reveal the presence of chloride of sodium; chloride of ammonium, on the contrary, exists in such circumstances under the form of cubes. Fourcroy and Vauquelin had long since observed this interchange of shapes produced by urea.

After this rapid survey of the results yielded by the microscope, the reader can understand the facility with which the most complex mixtures may be forced to resolve themselves into their elements, beneath the eye of the observer. If he sees an amorphous powder, dilute nitric acid is capable of revealing its nature; if a phosphate, it will dissolve; if a lithate, it will transform itself into rhomboidal prisms; if both those results take place, it denotes a mixture of these substances; if albumen be likewise present, acetic acid may be first employed; and thus, by a combination of microscopic inspection, with the resources of chemistry, qualitative (and to an approximative extent, quantitative) analysis may be performed with a promptness and precision hitherto un hoped for.

We shall conclude this subject by detailing the diagnostic uses to which three important conditions of the urine may be applied; namely, the presence of crystallized uric acid, an alkaline condition, and the existence of albumen.

Crystallized Uric Acid.—M. Rayer thinks that febrile excitation, independently of every species of nourishment, has a real influence in the production of uric acid, and the urates, sometimes from a modification of the blood, sometimes depending on a modification of urinary secretion. This physician

has never seen crystallized uric acid in the urine of a person perfectly healthy : he finds that in general, bleeding diminishes its quantity in acute diseases ; but, that sometimes in their latter stages, and after many bleedings, the use of watery drinks, and nearly a total deprivation of nourishment, he has seen a very considerable reddish sediment, composed of crystallized uric acid, together with an amorphous deposit, placed on a little mucus. He does not believe it to be augmented by an animal regimen. The excrement of reptiles, and birds who live on vegetable food, is as much charged with lithates as that of those who are carnivorous. His experience is opposed to that of M. Barruel, who had previously announced a diminution of uric acid in diabetes. He has confirmed the observation of M. Chebers, who found the exhibition of colchicum in gout to increase the excretion of uric acid from 0,069 as far as 0,091 on the eighth day, and to 0,112 on the twelfth ; but he has ascertained this influence to be modified by bloodletting. For further knowledge of the views of this distinguished observer, on the above important subject, we wait anxiously for the publication of the remaining volume.

Alcalinity of the Urine.—The symptoms which have hitherto been supposed to constitute the phosphatic diathesis, are those assigned by M. Rayer to *chronic simple nephritis*. The disease which has been designated *chronic nephritis* as far as this day, and which manifests itself by purulent urine, and a tumour in the loins, is actually a pyelitis usually calculous.

Habitual pains in one or both lumbar regions, coinciding with diminished acidity or an alkaline condition of the urine, with or without retention, and a sensation of feebleness in the inferior extremities, are the principal characters of simple chronic nephritis. The urine being alkaline is troubled, unless phosphates be present in very small quantity. The renal pain is obscure, except to pressure, and rarely propagated along the ureter, or to the testicle ; the urine is passed frequently, but in small quantity. Unless complicated, there is no fever, but the patients emaciate insensibly.

Therapeutic means sometimes confirm, by their efficacy, the diagnosis of chronic nephritis. In doubtful cases, where one side was not more sensible to pressure than the other, and where alkaline and troubled urine was the only symptom of renal lesion, M. Rayer found the urine to become acid and transparent for many days after cupping ; the former state recurring after an error in diet, fatigue, or exposure to cold.

The characters of the urine in this disease were recognized by Dr. Prout. This eminent physician, to whom the history of

renal disease is so much indebted, was also the first to generalize the symptoms by which this condition of the urine is accompanied. M. Rayer, by localizing this disease, and developing its pathological causes, has conferred a great benefit on medical science. His opinion, with respect to the essential attribute of this urine, differs, however, from Dr. Prout's. The excess of phosphates, he looks on as an accident. The vice of secretion, by which the acidity of the urine is diminished, he regards as the necessary consequence of renal inflammation.

But it is not to be forgotten, that this tendency to alkalinity signifies differently, according as it may arise from a vice of secretion, or has taken place in the bladder, from admixture with blood or serum, or in the progress of putrefaction; even when secreted alkaline, this may result from the ingestion of various articles of food or medicine. M. Rayer says that he has had no experience of the alkalinity of the urine in typhous fever; in typhoid fever, he only found it alkaline twice in fifty cases, and that but for three days; but in the cachectic condition, which follows typhoid fever, he admits alkalinity to be common. He denies, however, that it is necessarily present in cachexia; it may occur frequently after typhoid fever and in spinal diseases; yet in phthisis, cancer of the stomach, &c., the urine is very constantly acid. Finally, this physician maintains, that after injuries of the spine the urine is never alkaline, unless the kidneys be inflamed.

It may appear strange, that irritation of distant organs should create a condition of the urine, directly opposite to that which occurs when the kidney itself is inflamed. But we may refer, in confirmation of the views of M. Rayer, to the remarkable experiments of M. Donné, confirmed by S. Mateucci, of Florence. These philosophers ascertained that in health the skin is acid, the mouth alkaline; and so great was the electrical difference, as to be capable of producing a deflection of 15, 20, or even 30 degrees, with a delicate galvanometer. But in inflammation, this condition becomes reversed. The serous membranes, also, are alkaline in health, but acid in disease. Need we be surprised if the kidney, which in health secretes an acid, should, on the contrary, secrete an alkali when inflamed.

Albuminous Urine.—The varieties of the urinary secretion which contain albumen, differ among themselves, not only in the proportion of albumen they contain, but also in the quantity of urea, saline matters, foreign constituents, &c. In granular degeneration of the kidneys, the urine not only contains albumen, but is deficient in urea and salts. In acute affections, albumen is often co-existent with an excess of lithates, purulent urine is

always albuminous. In chylous urine the albumen is mixed with fatty matters.

“It is from not having sufficiently studied these differences,” says M. Rayer, “that some persons remain so uncertain, so undecided, in the diagnosis of albuminous nephritis. The reunion of the results furnished by the reagents for albumen, by the balance, or hydrometer, both by analysis and microscopic inspection, is absolutely necessary for the diagnosis of diseases with albuminous urine, and especially for that of albuminous nephritis.”

We agree with M. Rayer, and are moreover convinced, that it is from not having observed these differences, that some eminent physicians have deceived themselves into the belief, that in no instance is coagulable urine met with, without the kidneys being diseased, nor healthy kidneys with coagulable urine.

The following propositions from M. Rayer’s work, demonstrate in what a variety of cases the urine may contain albumen.

“1. When the urine is albuminous, there exists a lesion of the genito-urinary apparatus, or of its functions, or an alteration of the blood.

“2. In the course of a mercurial treatment, the urine is not habitually albuminous, unless in general affections (scorbutus, purpura) or in intercurrent maladies of the urinary apparatus.

“3. In many acute diseases, the urine may accidentally contain a certain quantity of albumen, and continue to do so for many days. This phenomenon, which coincides always with an increased specific gravity of the urine, with an excess of uric acid, or urate of ammonia, indicates ordinarily a sanguineous congestion of the kidneys, the ureters, or bladder.

“4. In health, urine may be accidentally, and during twenty-four hours, albuminous, in consequence of a direct or indirect excitement of the urinary passages; and sometimes by admixture with a certain quantity of spermatic or prostatic fluids. During menstruation the urine, during its emission, may charge itself with a certain quantity of blood, and be of course, albuminous.

“5. In hematurias, the albumen may be found in urine, with the colouring matter of the blood, with or without fibrine, or with little fibrine, (sanguinolent urine,) or even it may be found alone, its presence only manifesting itself by an augmentation of density; nitric acid and ebullition will then make known the presence of albumen, and indicate that the hæmorrhage continues in an incomplete manner.

“6. When the urine contains much mucus, mucopus, or rarely true pus, and is slightly albuminous; and when there exists, at the same time, pains following the trajet of the ureters, or in the region of the kidneys, these symptoms indicate, in the greater number of cases, an acute inflammation of the mucous membranes of the calyces, pelvis, and ureters, (pyelitis,) not necessarily accompanied by nephritis.

“ 7. Purulent urine is always albuminous ; the pus may proceed from an abcess of the prostate or surrounding parts, when it will deposit as a white sediment, in which globules are easily recognizable : or it may come from a chronic pyelitis, in which case the coexistence of purulent urine with a tumour in the loins, is an evidence of distention of the pelvis and calyces, and most commonly of a renal calculus : or if the urine be ropy and glairy, with the globules for the most part altered and destroyed, it announces, generally, a chronic inflammation of the mucous passages, and especially of the bladder.

“ 8. Albuminous urine, charged with colouring matter of blood, and rendered habitually, is a common symptom of calculous pyelitis, cancer of the kidneys, fungoid tumours of the urinary apparatus, essential hematurias ; of all diseases, in fine, in which a certain quantity of blood may be carried into the urinary passages : occasionally, when the hæmorrhage is renal, there are emitted, at the same time, vermiform, fibrinous clots.

“ 9. If a pale and troubled urine, ordinarily without deposit, gives, by heat and by nitric acid, an abundant albuminous coagulum, and does or does not contain other elements of the blood, if its specific gravity is beneath the normal weight, if there is at the same time a diminution of urea, of uric acid, of urates and phosphates, with general dropsy, however slight, and that these phenomena persist, with or without fever, with or without pain in the loins, we can affirm that there exists one of the three alterations of the kidney described by Dr. Bright, or one of the six which I have described under the name of albuminous nephritis.

“ 10. An albuminous urine of low density, offering the characters of that which is described in the preceding paragraph, in a person who does not present any other sign of disease, is sufficient to enable us to recognize an albuminous nephritis, and to make us prognose the ulterior development of dropsy, if the disease continues.

“ 11. If after having been excessively abundant, with a taste more or less sweet, urine becomes coagulable by heat and nitric acid ; this phenomenon indicates, according to M. Thenard and M. Dupuytren, a progress towards cure ; others have remarked this as a passage towards dropsy, and I have many times experienced the exactness of this prediction.

“ 12. On the other hand, I have seen a diabetic patient become dropsical without albumen appearing in his urine, it being the result of a true cachexia.

“ 13. In conclusion, the presence of albumen is a phenomenon common to many diseases, acute and chronic, of the urinary passages, together with some general diseases, (purpura, scorbutus, hæmorrhagic eruptive fevers, &c.) To acquire a positive signification in the diagnosis of many diseases where it is observed, this phenomenon demands the union of a knowledge of other conditions of the urine, of many other symptoms, and of some negative signs.”*

* As an analogical evidence of the tendency of the genito-urinary apparatus to secrete albumen, we may refer to the coating of this principle, which the yolk acquires in the oviduct of birds. Dr. Fricke, of Hamburgh, has ascertained, that the urine is albuminous in gonorrhœa. These observations we owe to Dr. Graves.

Dr. Christison's experience has led him to conclusions somewhat at variance with the foregoing propositions ; thus he has found the proportion of albumen in the urine to correspond, in a great measure, with the intercurrent inflammation of granular degeneration, being in greatest quantity in the commencement, and diminishing as the disease advances, so as frequently to disappear, nearly, or entirely, either for a time, or altogether, unless recalled by the supervention of a new reaction. But he, in common with M. Rayer, disowns the opinion, "that the presence of granular disorganization of the kidneys may be known by the condition of the urine alone;" and he further declares:—

"In respect of the pathological characters of the urine as diagnostic of the disease, it seems necessary to add, that although I feel confident of their great value in a practical point of view in all cases, and of their being generally sufficient to direct the physician's opinion,—it would nevertheless be very wrong to rely on such a test alone, when he has it in his power to take also into account a variety of other important symptoms, among which the secondary or collateral affections are often most conclusive, and seldom entirely wanting."

We need not apologise to our readers for referring to the opinion of Dr. Bright. That distinguished physician, to whom is due the discovery of this important lesion, fully demonstrates in a letter to Dr. Graves, (dated December 27, 1838,) which is now before us, that in his published works, he has always been careful to state, "That functional disease, in this as in most other cases, precedes the structural change." (Vide Reports of Medical Cases, 1827, page 3, and vol. ii., 1831; and Guy's Hospital Reports, 2nd No., 1836.) Thus we find in the first work cited, page 70:—

"In the treatment of the disease as it occurs in sudden attacks of anasarca, from intemperance, and exposure in its early stages, and *before organic changes have taken place*, we have two distinct indications to fulfil," &c.

The following passage from the letter above referred to, Dr. Bright will excuse us for extracting, as we are unwilling to deprive our readers of a pleasure similar to what we felt in its perusal.

"Thus it seems to me, that, upon the whole, I ought to be pretty free from the imputation of stating, that albuminous urine never proceeds but from a kidney in which structural change has taken place; having indeed never written upon the subject, as you here see, without declaring the contrary to be my opinion. In truth, however, I am sorry that such a notion

should have been spread abroad, for I have no doubt it has given unnecessary uneasiness to many. I cannot, however, accuse myself of any thing, except that I have ever been unwilling to enter into long explanations respecting opinions which may be right or wrong."

The opinions we have quoted from the foregoing eminent physicians, will be found very nearly to approach that uttered by Dr. Graves in his published lectures. (Am. ed. page 378.) "When albuminous urine in chronic dropsy is found to occur along with Bright's kidney, I consider this particular state of urine and kidney as depending upon different causes, which often co-exist in chronic dropsy, and consequently I regard albuminous urine as a sign of Bright's kidney, but not as its result."

We have been the more particular in comparing the sentiments of these different writers, because it is commonly thought among members of the profession, that their opinions are utterly opposed: such, however, is not the case; and even if it were, their common goal being truth, to that point its sincere pursuit must sooner or later have led them.

We must now conclude this very long article. Our high opinion of the works to which it is devoted, may be gleaned from the numerous and lengthy extracts we have quoted. We have displayed for the present use of our readers, a few specimens of the ore, but there remains in the rich mine much that will reward an attentive perusal. This, however, is now scarcely a matter of choice; for ere many years have elapsed, a knowledge of the signs derivable from the urine will be as necessary to the physician as an acquaintance with the use of the stethoscope is at present.

JOHN ALDRIDGE.

Die Lehre von der Erkenntniss und Behandlung der Lungen- und Herzkrankheiten. Mit vorzüglicher Hinsicht auf die Auscultation, Percussion und die anderen physicalischen Explorationsmethoden. Von Dr. P. J. PHILIPP. Zweite, gänzlich umgearbeitete Auflage. Berlin, 1838.

Doctrines for the Recognition and Treatment of Diseases of the Lungs and Heart, with particular Reference to the Methods of Exploration by Percussion, Auscultation, &c. By Dr. P. J. PHILIPP, Berlin. Second Edition, thoroughly revised.

THOSE who have perused the former edition of this work, will hardly recognize it in its present form, it is so much enlarged and improved.

Throughout the whole, the object of the author appears to have been rather to collect the views of those who have written with most clearness on the various subjects of which he treats, than to put forward his own opinions in a prominent manner. Unambitious of distinguishing himself as the author of original subjects, he seems satisfied with introducing to his countrymen, in their own language, a collection of all the valuable facts, which have been confirmed, to be found in the works of Corvisart, Laennec, Louis, Andral, Bouillaud, Magendie, Forbes, Hope, Stokes, Williams, &c.

Dr. Philipp complains, and we must say with justice, of the want of zeal which the German practitioners have shown in the study of auscultation, whilst it has been so assiduously cultivated in France and England; and this he conceives is the more to be wondered at, as Germany gave birth to Anenbrugger, who, after the discovery of succussion by Hippocrates, may fairly be considered as having developed the second step to the more perfect art.

This work is well worthy of being translated into English, forming, as it does, a concise epitome of all that is known with regard to diseases of the chest, with their physical signs; in the former the greatest confidence is reposed, in the descriptions given by Stokes; in the latter on those by Laennec; whilst the theory of Williams and Hope with regard to the sounds of the heart, is that to which he appears to be most favourable.

A Synopsis of the various Kinds of difficult Parturition, with practical Remarks on the Management of Labours. By SAMUEL MERRIMAN, M. D., F.L.S., &c. &c.

THE merits of the greater part of this work are already too well known, and too highly appreciated by the profession, to require that we should express, at any great length, the high opinion we entertain of what is universally regarded as one of the very best practical books of reference in our language: to the author's reputation we could add nothing.

The present edition, while it retains all the valuable information embodied in former ones, is enriched by the addition (in the form of introduction) of two chapters, one on "the Symptoms of Pregnancy," and the other on "the Period of Parturition in Women": the former contains many valuable remarks in a condensed form, and brief space, the author having relinquished his original intention of writing at large upon the

subject, for a reason which we notice with much satisfaction.

“It was once my wish,” he says, “to enter into an elaborate discussion of the symptoms of pregnancy; but various occurrences interfered to prevent me, and I can hardly say that the work was begun. Dr. Montgomery has now published an exposition of the signs and symptoms of pregnancy, so complete and satisfactory, as to render any other publication on the subject unnecessary.”—p. xi.

Obstruction of the menses, Dr. Merriman appears to think almost a necessary consequence of pregnancy; to this position our experience will not allow us to subscribe; menstruation during *several* months of gestation, we concur in thinking a rare circumstance; and during the whole period, excessively rare; but its occurrence during the first two or three months we have too often known, to consider it as very uncommon.

The author attaches great value to the areola, and considers the drawings of it, in Dr. Montgomery’s work, as admirably representing it at different periods of pregnancy.

“I am disposed,” he observes, “to consider the formation of an areola round the nipple, connected with a suppression of the menses, as the most conclusive evidence we can possess, in the early part of a first pregnancy. But after a woman has borne children, the evidence of the areola is not so perfect; and I once watched, with great care, a case of first pregnancy, in which the areola was not developed till the commencement of the seventh month; I believe this is a solitary instance, within my practice.”—p. xiii.

The formation of milk, also, he thinks, carries with it great weight in a first pregnancy, but afterwards, “is by no means conclusive, as, when the secretion has been once established, it may continue for a very long time: thus, he says:—

“A woman became pregnant at nineteen years of age; she was not pregnant again *for nearly twenty years*, yet during this time, she could always produce milk, by gently squeezing the breasts; the milk was in small quantity, it is true, but it was pure milk.”

Our author’s next section is on the period of parturition in women; a subject to which, our readers must be already aware, he has paid great attention, both before and since he gave his evidence in the House of Lords, in 1825, in the Gardner peerage case; on which occasion, he maintained, as he still does, that the period of human gestation was not absolutely limited in all cases to 280 days, but might be extended somewhat beyond that length of time.

He gives us, p. xviii. "A table of the births of 150 mature children, calculated from, but not including, the day on which the catamenia were last distinguishable;" from which it appears, that

In the 37th week there were born	5
„ 38th	16
„ 39th	21
„ 40th	46
„ 41st	28
„ 42nd	18
„ 43rd	11
„ 44th	5

From this table he infers, and we agree with him, "that conception is effected more commonly soon after the catamenial period has intermitted, than immediately before the recurrence of that discharge."

The remainder of the volume is occupied with observations on the different kinds of difficult labour; and does not contain any thing except what has already appeared in former editions, with which our readers are already familiar. This is one of the best class books in our language.

Principles of General and Comparative Physiology, intended as an Introduction to the Study of Human Physiology, and as a Guide to the Philosophical Pursuit of Natural History. By WILLIAM B. CARPENTER, Member of the Royal College of Surgeons, London, Lecturer on Forensic Medicine in the Bristol Medical School, &c.—London, Churchill, 1839.

THE following extract from the author's preface will serve to explain the peculiar objects of his work:

"However trite may be the reason so commonly assigned by writers on any subject for presenting themselves to the public, the author is not disposed to omit its mention as regards himself. During the course of his physiological studies, he has felt, in common with many others, the want of a treatise which should give a comprehensive view of the science, embracing whatever general principles may be regarded as firmly established, and illustrating them as fully as could be done within moderate limits, yet without distracting the attention by profuseness of detail. He has long, therefore, kept in view the production of such a work as the present, should it not be anticipated by some other on the same plan; and in now deciding upon its publication, he has been influenced by the opinions of individuals of high eminence as teachers of physiology, as well as

by the encouragement he has received from some who take an elevated station in physical science, and who have experienced the same deficiency.

“It is now generally acknowledged that physiology can only be properly studied by a constant reference to the comparative structure and functions of many different classes of animals; and in most of the recent works on this science, an outline of the development and actions of each system in the inferior tribes is prefixed to the details relating to its condition in man. This outline is filled up in the present volume, not only by amplifying the portion of it which relates to the animal kingdom, but also by the introduction of a similar view of the comparative structure and functions of vegetables, which is here shown to be governed by the same laws. It is this which constitutes the peculiar feature of the work; as the author believes it to be the first attempt, in this country at least, to form anything like a systematic comparative physiology of vegetables. The translation of the elaborate comparative physiology of Tiedemann would, indeed, have occupied this ground; but it is still incomplete, and is likely to remain so; and the mass of details which it embraces, unconnected by comprehensive principles, renders it most tedious and embarrassing to the student. From that most valuable storehouse of *facts*, the present volume differs essentially, therefore, in plan; this being devoted to the explanation and illustration of general *laws*.

“Although his work is especially intended as an introduction to the study of human physiology for the use of the medical student, the author has kept in view the wants of the general reader, to whom he hopes to make intelligible some of the highest doctrines in this most interesting science. For this purpose he has given explanations of most of the scientific terms employed, in the situations where they could be most appropriately introduced; and reference to them is facilitated by the copiousness of the index, which thus serves the purpose of a glossary.”

There are very few persons in Great Britain who could have undertaken, with any prospect of success, the execution of a plan requiring such varied, and at the same time such accurate knowledge, for the task required a thorough acquaintance with human and comparative anatomy and physiology in the most comprehensive sense of the terms, as well as an industrious and long-continued study of all the departments of zoology and botany. It is difficult to decide in which department Mr. Carpenter displays most research, for in each he appears as though that alone had engaged his exclusive attention. In fact, a work displaying so much erudition, and so much knowledge derived from actual observation, we have not yet met with in any young English writer of the present day, for it must be borne in mind that the author has but recently taken his degree. It is not easy, in a work where the subject matter is of such extent and variety, to bestow on

each topic only a proper degree of attention ; for authors are generally tempted to dilate upon some favourite question, and are therefore obliged to curtail others, of at least equal importance. This error Mr. Carpenter has succeeded in avoiding, and consequently the volume contains just so much of each subject as it actually deserves, considered not by itself in an insulated manner, but as a part of a great and systematic whole. The volume contains 470 closely printed large octavo pages, and 219 well executed figures condensed into six plates, besides various plans and sketches to illustrate the text. The plate exhibiting the nervous system in the different classes of the animal kingdom is very beautiful and instructive.

Elements of Physiology. By J. MULLER, M.D. Translated by W. BALY, M.D.

THE fourth part of this celebrated work has appeared, and fully maintains the character given of it in a former number of this Journal. We have received the German original of the fifth part, *on the Senses*, and we promise the physiologists of Great Britain, that when its translation is published we shall have commenced a new era in the sciences of physiological optics and acoustics.

Lectures on the Theory and Practice of Physic. By the late DAVID HOSACK, M.D. Philadelphia, 1838.

DR. HOSACK's reputation is well established in England, and the publication of his lectures will contribute to render it still more permanent. We congratulate our American brethren on the rapid progress they are making in all the sciences connected with medicine. The new world is beginning to repay the debt contracted when she imported all her knowledge from the old ; the dowry of the daughter now enriches the parent, and Great Britain may well be proud of her Transatlantic child ; may she prove "*ex matre pulchrâ filia pulchrior.*"

A Dictionary of Practical Medicine. By JAMES COPLAND, M.D.

The Cyclopædia of Anatomy and Physiology. By ROBERT B. TODD, M.D.

It is unnecessary to say more of these two great works than that they continue to support the high character their early numbers so deservedly acquired.

Human Physiology. By ROBERT DUNGLISON, M.D. Third Edition. Philadelphia. 2 Vols. Illustrated by Engravings.

THIS work exhibits another admirable specimen of American industry and talent, and contains an account of every thing discovered in Europe up to the period of a few months prior to its publication. Many of the author's views are original and important.

Vital Statistics of Glasgow. By ROBERT COWAN, M. D., one of the Physicians to the Glasgow Royal Infirmary, &c. Glasgow, Robertson, 1838.

THIS publication consists of two parts, the first of which having reference to the statistics of fever and small-pox in Glasgow, we have already noticed in a late number of this Journal. The well-known character of the author, for industry, accuracy, and judgment, must render the second part of his work as acceptable to the profession as it is important to the legislature.

In the first part of his work, Dr. Cowan traced the statistics of fever in Glasgow for the forty-two years prior to 1837. In the second part, now for the first time before us, he examines the statistics of fever for 1837, and adds some remarks suggested by the mortality bills of Glasgow, a series of documents of which we have already expressed our unqualified admiration.

SCIENTIFIC INTELLIGENCE.

Proceedings of the Pathological Society of Dublin.—The object of the following Reports is to give a very brief and condensed account of the proceedings of the Pathological Society. The Society have resolved on publishing, at the termination of each session, a volume containing full descriptions of the most important specimens presented at each meeting, accompanied by such details and observations as may be calculated to illustrate the diagnosis and pathology of the individual cases; to this volume will be appended such plates as the Society may deem requisite for the more complete elucidation of the rarer forms of disease. The following Reports are therefore to be considered as a brief abstract of the proceedings of each meeting, to be succeeded by a more complete work, in which the subjects of investigation will be fully described and classified.

First Meeting of the Society, Dec. 1, 1838.

DR. GRAVES in the Chair.

1. *Aneurism of the Abdominal Aorta.*—Dr. Green presented a specimen of this disease, extending from the last dorsal vertebra to the iliac fossa of the left side, at which it arrived by passing behind the peritoneum, which membrane was extensively detached from the lumbar muscles; death took place suddenly, in consequence of a rupture through the diaphragm into the left pleura. The tumour in the left hypochondrium presented for some time before death a strong diastolic pulsation, unaccompanied by any bruit de soufflet. (*Museum, Richmond Hospital.*)

2. *Ulcerated Communication between the Gall Bladder and Stomach.*—Mr. Carmichael exhibited the liver, gall bladder, and stomach of an individual who had laboured under symptoms of hepatic disease for many years. The gall bladder was thickened, much diminished in capacity, and its cavity occupied by a calculus of the size of a pigeon's egg; it adhered to the stomach, and communicated with it by a small opening, the result of adhesion and recent ulceration. The symptoms immediately preceding death, were great irritability of the stomach, and constant vomiting

of yellow bile, which nothing could alleviate. (*Museum, Richmond Hospital.*)

3. *Encephaloid Tumour of the Abdomen, with Obliteration of the Vena Cava.*—Dr. Graves exhibited an abdominal tumour, which lay upon the upper part of the aorta and vena cava; the front of the latter vessel was almost completely incorporated with the cyst of the tumour, and its interior was obliterated by a substance quite analogous to that of which the tumour was composed. In this case the tumour had a distinct, but not diastolic pulsation, accompanied by bruit de soufflet, while the patient lay on his back, which ceased when he assumed the erect position. The left epigastric, mammary and intercostal veins were in a varicose condition. (*Museum, Park-street.*)

4. *Extensive Development of Malignant Disease, (Fungus Hæmatodes.)*—Mr. Crampton exhibited the recently removed parts in this case. The lungs contained a great number of encysted tumours, the contents of which consisted of two substances, the one a soft spongy structure, of a dark brown or black colour, and the other a dark coffee-coloured fluid, which spurted out when an incision was made into the tumour; the structure of the tumour exactly resembled that of the left testis, which had been removed by Mr. Crampton three months previous to the death of the patient. The bronchial glands were healthy: a small circular ulcer existed in the greater extremity of the stomach, and a number of malignant tumours were situated beneath the mucous membrane of the small intestines and colon, into the cavity of which they projected. The left testis, which had been removed, was also exhibited; its interior presented the usual appearances of fungus hæmatodes of that organ.

The history of this case will be given at length in the Transactions of the Society. We may remark that it has an important bearing upon the question, as to whether the encephaloid or lardaceous tissues are to be considered as an early stage of what is usually termed fungus hæmatodes; here the disease was met with in every stage, and in all presented the same characters. (*Museum, Park-street.*)

5. *Pulmonary Calculus.*—Mr. Crampton exhibited a mass of cretaceous matter, of stony hardness, taken from the lung of a phthisical patient; it was somewhat larger than a tennis ball, and consisted of a series of spherical masses, which, when broken, presented the appearance of concentric laminæ; its composition was ascertained to be almost entirely carbonate of lime. (*Museum, Park-street.*)

6. *Fracture of the Tibia and Fibula; with Laceration of the anterior Tibial Nerve, producing severe Neuralgia of the Leg.*—Mr. Smith presented to the Society a preparation, shewing an oblique fracture of both bones of the leg, united with considerable deformity. The anterior tibial nerve had been torn across. The extremity of the upper portion of the nerve had become adherent to the upper fragment of the tibia, while the lower portion, along with the ten-

dons of the extensor muscles, was united to the extremity of the lower fragment of the bone.

The long continued existence of neuralgic pains, of a severe character, rendered amputation necessary two years after the receipt of the injury. The neuralgic pain extended from the knee to the seat of fracture; the limb below this was nearly destitute of feeling. (*Museum, Richmond Hospital.*)

7. *Granular Kidney, with permanent Patency of the aortic Valves.*—Mr. Ferrall exhibited specimens of these diseases, both from the same individual.

The kidneys presented an extreme degree of the granular state, and were, as Mr. F. generally found them, when so changed, small and contracted, and analagous to the contraction of the mamillated liver in an advanced stage.

The heart was so large as to conceal the lungs, and occupy a large portion of the chest; all the cavities were dilated, and the walls hypertrophied. The only valvular disease was at the aortic opening. The free margins of the semilunar valves were rolled up, and very much thickened; these turbinated edges could not be drawn out as far as the centre of the opening; their consistence was cartilaginous, but there was no earthy deposit; the free edges were also shortened, when measured between the points of their junction with their associate valves, their unyielding condition causing the force of the reflux current to be partly expended upon the remainder of the valve, which sunk into a deep pouch.

These lesions were diagnosticated nine months before the death of the patient, a young man 26 years old. He began to complain about eighteen months ago. His prominent symptoms were—increasing dyspnœa, anasarca, ascites, and a full vibrating but easily compressed pulse; constant orthopnea, and spasmodic breathing in paroxysms. He was twice relieved by acupuncture. His final sinking followed the entire disappearance of the anasarca, after the third employment of this measure. He was in a semicomatose state for a day or two before death. He never had hæmoptysis, and depletion even by three or four leeches, to relieve pain, produced such a feeling of sinking and suffocation as was only relieved by a full dose of wine. He was always improved by full diet, and for several months consumed a bottle of wine daily.

The principal physical signs were to-and-fro sound over the sternum, loudest about its middle, and extensive dulness on percussion; dulness, with absence of the respiratory murmur at the lowest part of the chest posteriorly, and œdematous rales higher up; these varied with the anasarca and occasional increase of fluid in the pleura.

The urine was copious, pale-coloured, and albuminous during the whole period of Mr. Ferrall's attendance on him, nearly nine months, and only became scanty just before death. Its specific gravity was always under 1006. (*Museum, St. Vincent's Hospital.*)

9. *Follicular Disease of the Intestines in Typhous Fever.*—Dr. Stokes presented a series of preparations in wax, and coloured after nature, which were made by Dr. Paterson, of Glasgow, to illustrate the condition of the intestines in the late epidemic in that city. These were transmitted to Dublin by Dr. Staberoh, of Berlin. Some of these preparations were confirmative of Dr. Staberoh's opinion, that the first stage of the typhoid affection of the intestines is an infiltration of a peculiar matter, which occurs without any accompanying vascularity, and that the consequent inflammation of the mucous membrane is the result of a reaction, induced in the part by the presence of the morbid matter.

December 8.

Mr. CARMICHAEL in the Chair.

1. *Ovarian Cyst.*—Mr. Ferrall exhibited a portion of a large ovarian cyst, which had been punctured nine times. The last operation was performed by his colleague, Dr. Bellingham, under whose care the patient, aged 55, was admitted into St. Vincent's Hospital, labouring under acute bronchitis. It was done to relieve distention two or three days before her death.

On examination, the cyst was found to be unilocular. It occupied a large portion of the abdominal cavity. Internally it was lined with false membrane, of different degrees of consistence; the fluid was glairy at the top, and purulent towards the bottom of the sac. The triangular orifice of the trocar was blocked up by a long piece of the lymph exudation.

No false membrane existed on the peritoneal surface anteriorly, nor any attempt at adhesion; the surface was smooth and polished, large branches of veins ramified underneath.

This case appeared to shew:

1st. That length of time and great size of the cyst affords no security for its adhesion to the abdominal walls; further, that it may have undergone repeated operations, and that chronic inflammation with false membrane may exist internally, without any such process being set up on the outside.

2. That the absence of adhesion, and the protection afforded by it, does not necessarily bar the success of several operations on these cysts.

Sir A. Cooper recommends us to wait until time and size produce adhesion to the parietes. Dr. Bright advises that the cyst should be almost completely emptied, in order to avoid the escape of the fluid into the peritoneum, of which, more than any other accident, he dreads the occurrence. Dr. Seymour also fears the consequences of effusion of ovarian fluid into the peritoneum, and instances the fatal effects of rupture of the cyst.

But this case could hardly have been operated on nine times without the escape of fluid into the peritoneal cavity; no adhesion having existed. And besides, the case of rupture is something more than contact of ovarian fluid with the peritoneum. The

shock, occasioned by its sudden escape and pressure among the vessels and viscera, is to be considered.

He might add, that he had seen recovery from the well marked occurrence of rupture of the ovarian cyst.

3. *Intra-thoracic Cancer*.—Dr. Stokes exhibited a series of preparations illustrative of intra-thoracic cancer.

1st. Circumscribed lardaceous masses, varying from the size of a pea to that of a walnut, imbedded in the substance of the lung, and between which the pulmonary structure was healthy; no ulceration existed in any of these masses.

2nd. Cancerous degeneration of a portion of the upper lobe of the lung, with complete obliteration of the pulmonary structure.

3rd. Cancerous degeneration of nearly the whole lung.

4th. Encephaloid tumour in the posterior mediastinum, pushing the left lung downwards and forwards, and compressing the œsophagus.

5th. Two specimens of large encephaloid tumours, in the posterior mediastinum, surrounding the pulmonary artery. In one of them the trachea was compressed, and the left subclavian obliterated.

6th. An almost complete degeneration of the right lung into a mass of encephaloid disease, but differing from any of the former in the occurrence of ulcerative action; a large oblong cavity occupied the centre of the lung, communicating on the one hand with the bronchial tubes, and on the other by several irregular fistulæ, with a superficial ulceration, which, to a great extent, had separated the lung from its investing pleura. The cavity thus formed was occupied by air and purulent matter; so that there was an empyema and pneumothorax, not in the cavity of the pleura, which was obliterated by adhesion, but beneath the pulmonary pleura, and exterior to the lung. (*Museum, Park-street.*)

4. *Cancer of the Lung and Heart*.—Dr. Law presented a drawing, exhibiting extensive cancerous disease of the left lung; numerous tumours, of various sizes, were found imbedded in the substance of the organ; some having a consistence similar to that of brain, others were hard and cartilaginous; in some of the latter, a milky fluid existed in the centre; and they presented a fibrous structure, the fibres occasionally presenting a concentric arrangement; a mass of soft encephaloid matter was diffused through the centre of the lung; several tumours, likewise of a cancerous nature, existed between the base of the lung and the diaphragm; and one was noticed upon the anterior surface of the heart, and another imbedded in its muscular structure; softened tubercles existed in the liver, and one of the costal cartilages presented a tumour of the same fibrous character as those observed in the lung.

5. *Vesicular Polypi of the Uterus*.—Dr. Montgomery presented a series of specimens of this disease, which he considered to be one of advanced life; these polypi are at first soft, but become

very firm, and when several are grouped together at the os uteri they acquire so great a hardness as to be liable to be mistaken for scirrhus; and when they are seated in the cervix uteri, there are usually others of a similar nature in different portions of the uterus. He also shewed that a plurality of polypi, and of different kinds, was not an unfrequent occurrence in the same uterus; and that they were very often conjoined with other organic affections of this organ, especially with fibrous tumours, and that there was also often coexisting obliteration of the canal of the cervix, with the presence of those small vesicular and fibro-cellular polypi. He exhibited specimens illustrative of all these points, and mentioned a method, devised by himself, which had succeeded in removing these polypi without operation.

6. *Hæmorrhagic Peritonitis*.—Dr. Hutton presented the abdominal viscera of a man, who died forty-six hours after the reduction of a strangulated hernia. The mucous membrane of the intestines was of a deep blood-red colour, and the peritoneum covering the small intestines was the colour of wine lees. The peritoneal cavity, and also the interior of the tube, contained a very large quantity of a dark, bloody fluid. Many large ecchymosed spots existed along the mesenteric attachment of the intestines. The serous membrane of the large intestine was unaffected and pale.

December 15, 1838.

ABRAHAM COLLES, M. D., in the Chair.

Disease of the Sciatic Nerve.—Mr. Carlile exhibited a specimen of disease of the sciatic nerve. A tumour, about three inches in length, occupied the upper part of the nerve, apparently formed by several successive depositions in and upon the substance of the nerve; a second, of smaller size, was seated a little above the division of the nerve; and at intervals along its trunk were several smaller nodules, some lying on the surface, others in the centre.

The interior of the nerve presented a striated appearance, from the intermixture of the morbid structure with the original texture of the nerve. The plantar muscles resembled the surrounding cellular tissue in colour, and were soft and flaccid; the specimen was taken from an adult female, who had never complained of pain along the course of the sciatic nerve, or any of its branches, but had lost the power of walking. (*Museum, Park-street.*)

2. *Fracture of both Bones of the Forearm, in the vicinity of the Wrist Joint*.—Mr. Adams presented to the Society an example of fracture, which traversed the lower end of the ulna obliquely, close to the wrist joint, and separated the epiphysis from the lower extremity of the radius; the hand and lower fragments of the bones of the forearm were displaced. The man from whom the preparation was taken had fallen from a scaffold; and in addition to the fracture of the bones of the forearm, had received other severe injuries, of which he very soon died.

Mr. Adams remarked upon the close resemblance which the appearances in this case bore to luxation of the wrist joint, as

ordinarily described, but expressed his opinion, that as yet there was no evidence of the occurrence of such an accident. The cases hitherto described as such, he considered to be fractures of the bones of the forearm, close to the wrist joint, or separation of the epiphysis; he alluded to the case detailed by Cruveilhier, as an accidental luxation, and commented upon by Dupuytren as a fracture of the lower end of the radius, but which Mr. Adams believed to be neither a fracture nor accidental dislocation, but a congenital luxation; in proof of which he exhibited a cast taken from the arm of a woman, an inmate of the House of Industry, Dublin, and compared it with Cruveilhier's plate* of the above deformity, and pointed out the perfect resemblance that existed between them. In Mr. Adams's case, the congenital nature of the defect could not be doubted. (*Museum, Richmond Hospital.*)

3. *Cysts contained in the Parietes of the Heart.*—Mr. Bigger exhibited a heart, the parietes of which contained a number of cysts, about the size of a small bean: some were merely inserted, as it were, between the carneæ columnæ, while others were imbedded in the muscular substance of the heart, particularly towards its apex; they contained a fluid of a purulent aspect; the patient from whom the preparation was taken died of phthisis pulmonalis, and never complained of any symptom connected with disease of the heart.

4. Mr. Bigger next exhibited some preparations illustrative of the pathology of purpura; he presented portions of the pericardium, dura mater, pia mater, and also a portion of the anterior lobe of the brain. The sub-serous tissue of the pericardium and dura mater, were studded with small dots of blood, about the size of a pin's head; some of which had burst through the investing membrane, leaving small excavations; in the anterior lobe of the brain there had likewise existed a coagulum, which had broken down the substance of the brain, and forced its way into the left ventricle; there was a petechial spot upon the corresponding part of the arachnoid membrane: these preparations were taken from a patient who died with the chronic form of purpura. Mr. Bigger also exhibited another preparation, consisting of a portion of the intestinal mucous membrane, covered with minute ecchymoses; which in many places were elevated, raising the epithelium, while in others they had burst through it, leaving dark excavations; he contrasted the petechiæ with those of the plague, which he illustrated by drawings.

5. *Chronic Pleuritis, with incipient Aneurism of the Aorta.*—Dr. Graves exhibited a specimen of chronic pleuritis, in which the abscess had opened externally; for some time before death, and consequent upon the bursting of the abscess, the secretion from the bronchial mucous membrane, which had been copious and

* Livraison, 9, Pl. 2.

purulent, rapidly diminished, and its fœtor disappeared ; the same circumstance occurred with respect to the diarrhœa ; he alluded to a case of hæmorrhagic pleurisy, in which a copious effusion of a sanguinolent fluid, exactly similar to that contained in the pleura, was found in the bronchial tubes. In the first case there existed a small aneurismal tumour, about the size of half a filbert, within about two inches of the valve. The aorta was studded with small atheromatous deposits. (*Museum, Park-street.*)

6. *Vesicular and Fibro-cellular Polypi of the Uterus.*—Dr. Montgomery exhibited a preparation of these forms of polypi. The vesicular polypus was seldom seen by itself. Sometimes it had a remarkably hard feel, and might be mistaken for scirrhus. Since the last meeting he had received a very remarkable specimen from Mr. Ferrall, to whom he begged leave to express his thanks. It exemplified the combination of vesicular and fibro-cellular polypi to which he had already alluded. Any one who examined it would be struck by its peculiarly hard feel. Attached to the cervix was a racemated vesicular polypus, which felt as hard as cartilage. There was another of the same kind, and a fibro-cellular polypus, close to the fundus. Dr. Montgomery said, that when fresh, the vesicular polypus was much harder, and communicated to the finger the feel of scirrhus. The preparation he exhibited showed, that the bodies termed ova nabothi, exist in the fundus as well as in the cervix uteri ; in the specimen before him, there were vesicular tumours along both fallopian tubes, and on the surface of the ovaries. The uterus was that of an old woman, between sixty and seventy : and he observed that the disease is peculiar to this time of life. Dr. Montgomery exhibited another preparation, to shew that when the cervix uteri has been obliterated by such growths, an effusion takes place into the uterine cavity ; the organ enlarges, while at the same time its walls become thinner, until at last they give way, and the fluid is discharged into the cavity of the abdomen. In the specimen he exhibited, the walls were as thin as paper. This disease has been rarely noticed. One case had been published by Dr. J. Clarke, of London, and another by Latour. He was not aware that it had been described by any other author. (*Museum, Sir P. Dun's Hospital.*)

December 22, 1838.

Mr. CRAMPTON in the Chair.

1. *Tubercular Disease of the Peritoneum.*—Dr. Greene presented a specimen of this affection. The peritoneum was thickly studded with tubercles, varying in size from the head of a pin to that of a walnut ; a hard, uneven, nodulated tumour, appearing to sink deep into the pelvis, was detected in the left inguinal region. During life, a friction sound was heard over the hepatic region previous to death. The ovaries were converted into a tubercular mass, with hydatids on their surface. The omentum was

shrunk, and filled with solid white tubercles. The peritoneum osite the convex surface of the liver was similarly affected.

opp2. *Aneurism of the Posterior Cerebral Artery.*—Mr. Smith exhibited a preparation of this disease; the tumour was as large as a walnut, and occupied the floor of the third ventricle, producing softening of the surrounding cerebral substance. The sac was completely filled with fine laminated coagula. The patient died with paralysis of both lower extremities, and of the left arm.

3. *Fracture of the Neck of the Femur.*—Mr. Smith also exhibited a series of specimens, illustrative of this lesion, occurring external to the capsule. The preparations were chiefly illustrative of the impacted fracture; in some, the upper fragment was driven so forcibly into the lower, that it was impossible to extricate the one from the other: these preparations explained the facts, that in some cases of fracture of the neck of the femur, no crepitus can be discovered, the limb cannot be restored to its natural length, and the patient is able to walk after the occurrence of the accident. Mr. Smith also exhibited a specimen of intra-capsular fracture, which had occurred many years before the death of the patient; a false joint had been formed between the broken surfaces, and the head of the femur had become intimately united to the bottom of the acetabulum. (*Museum, Richmond Hospital.*)

4. *Malignant Tumour of the Mamma.*—Mr. Cusack exhibited a specimen of this disease; the case was remarkable, in consequence of the total absence of contamination of the lymphatic glands in the vicinity; the integuments preserved their natural softness and pliability. The tumour consisted of a congeries of cells, containing matter in different stages of softening, and appeared to have no connexion with the substance of the gland, which did not exhibit any trace of degeneration. (*Museum, Park-street.*)

6. *Nearly complete Obliteration of the Pulmonary Artery.*—Dr. J. A. Power presented an example of this rare lesion, taken from the body of a young girl, who had been born with morbus cæruleus, and who died from an attack of bronchitis, at the age of twelve years.

The foramen ovale was not completely closed: the orifice of the pulmonary artery presented the appearance of a small papilla, through which it was barely possible to pass a fine probe; the tricuspid valves were puckered and contracted, and must have admitted of a free regurgitation into the right auricle, which was greatly enlarged and thickened; the muscoli pectinati were highly developed; the right ventricle was also hypertrophied and dilated; the left auricle and ventricle were much reduced in size, and the termination of the right ventricle formed the apex of the heart. In this case the pulmonary circulation must have been carried on by the bronchial arteries.

6. *Imperfect Ventricular Septum of the Heart.*—Dr. Power also exhibited a preparation, shewing an arrest of development in

the septum of the ventricle; the aorta had a free communication with both ventricles, the right ventricle formed the principal portion of the heart; its cavity was enlarged, and its parietes hypertrophied, while the left presented the very opposite condition. Nothing was known of the history of this case.

7. *Fungus Hæmatodes of the Uterus*.—Dr. Thomas Beatty presented a specimen of fungus hæmatodes of the uterus; two tumours were discovered, one existing in the substance of the organ, and not intruding into the cavity, while the other occupied the fundus. The history of this case is not known.

8. *Calcareous Tumour of the Uterus*.—Dr. Beatty also shewed two specimens, illustrative of this disease; in one, the tumour occupied the posterior wall of the uterus, and in the other the deposition existed in the lower portion of the side of the organ.

9. *Sloughing of the Vagina, after Parturition*.—Dr. Evory Kennedy exhibited a series of preparations, shewing extreme sloughing of the vagina, after parturition.

1. Separation of the whole mucous membrane of the vagina. In this instance the patient had perfectly recovered, and the vagina was pervious. He alluded to several similar cases of recovery, in which the application of strong nitric acid was extensively had recourse to.

2. A recent specimen of gangrene of the vagina and uterus; the patient died six days after delivery. The symptoms of gangrene made their appearance on the third day.

3. Partial adhesion of the walls of the vagina after first labour; which did not, however, prevent subsequent impregnation; the patient died eight days after her second delivery, of sloughing of the vagina and uterus.

4. Sloughing of the mucous membrane of the vagina, which the patient survived, but afterwards died of hectic fever, induced by the formation of a large abscess in the surrounding cellular tissue.

5. Sloughing of the vagina and uterus; some of the vessels of which had given way, and the patient died of hæmorrhage.

10. *Perforating Ulcer of the Stomach*.—Dr. Law exhibited a specimen of perforating ulcer of the stomach, accompanied with extreme narrowing of the pylorus; the patient, a female, was suddenly seized with vomiting of blood, and died in thirty-six hours afterwards, with all the symptoms of acute peritonitis.

January 5th, 1839.

DR. MONTGOMERY in the Chair.

1. *Compression of the left Bronchial Tube by a small Aneurismal Tumour. Perforation of the Œsophagus*.—Dr. Greene presented a specimen of aneurism of the descending portion of the neck of the aorta; the left bronchial tube lay directly in front of the tumour, so that it was compressed by the arch of the aorta anteriorly, and by the tumour posteriorly; it had burst into the œsophagus.

In this case the principal symptoms were dysphagia, loud ringing cough, stridulous respiration, severe dyspnœa, increased

by lying on the left side, feebleness of respiration in the left lung, tracheal breathing under the clavicles, and greater dilatation of the right side during respiration; the aneurism gave no impulse, nor was there any bruit de soufflet.

2. *Obliteration of the abdominal Aorta, the left Iliac and Femoral Arteries.*—Mr. Hutton exhibited a preparation, in which the abdominal aorta, for two inches above its bifurcation, the left iliac, and femoral arteries, were filled with fibrine; the lining membrane of the iliac and femoral vessels was here and there vascular and thickened, but the coagulum was not connected to the vessel by any false membrane; the coagulum in the aorta was deprived of colouring matter, and contained a small quantity of thick purulent fluid in the centre; its lining membrane presented no signs of inflammation; the iliac and femoral veins were also filled with coagula, but did not appear to be inflamed.

The individual had died of gangrene of the extremities, affecting in the first instance the left foot; the process of obliteration of the left iliac artery was distinctly traced during life; the gangrene of the right lower extremity did not begin until after the obliteration of the aorta.

3. *Multilocular Aneurism of the Aorta, complicated with Pulmonary Tubercle. Calcareous Deposit in the Bronchial Tubes.*—Mr. Crampton exhibited the recent parts in this case; both lungs contained a great quantity of tubercle; the tubercular deposit in the right lung seemed much more recent than that of the left, and partook more of the character of tubercular infiltration than the isolated crude tubercle; its upper lobe presented an anfractuous abscess; on pressing the lower lobe of the left lung numerous sharp spiculæ could be felt; these proved to be concretions forming accurate casts of the minute bronchial tubes; the aneurism sprung from the origin of the aorta and was about four inches in breadth and six in length, it was multilocular, some of the cells being as large as a hen's egg, and all contained a quantity of dense laminated fibrine; one large cell towards the upper part of the tumour, and exactly lying on the trachea, was completely filled by fibrine; the innominate, left carotid, and subclavian were free from disease.

In this case the patient died with the symptoms of phthisis, none of the usual symptoms or physical signs of aneurism being present, with the exception of the loud ringing cough and the stridulous character of the inspiration immediately following it.

4. *Contamination of the Fœtus by Venereal Poison.*—Dr. Evory Kennedy presented a fœtus exhibiting the characteristics of venereal taint, and born about the sixth month, the mother being affected with decided syphilis, which had been contracted, according to her statement, about two months previous to the birth of the child. Dr. Kennedy observed, that if the mother's statements were to be believed, they would go to establish the communication of syphilis to the fœtus in utero in an advanced stage of its development.

Stricture of the Pylorus in consequence of thickening of the Tunics of the Stomach without Ulceration.—Mr. Ferrall exhibited a series

of specimens illustrative of this lesion; he also exhibited a series of original drawings illustrative of cancerous disease of the pylorus without stricture, and proceeded to contrast these two pathological states; in a case belonging to the first series the patient, an elderly female, had the coffee ground vomiting, which has been supposed to indicate ulceration of the stomach. This fact has been noticed by Andral. Mr. Ferrall concluded by pointing out the difference of symptoms between the two cases.

January 12th.

PROFESSOR HARRISON in the Chair.

1. *Chronic Abscess of the Lung, with Mortification of a Portion of one of the Ribs.*—Dr. Bovell exhibited drawings of the appearances in this case; the anterior portion of the left lung presented an encysted abscess of the size of a turkey's egg, containing foetid purulent matter and communicating with the bronchial tubes; the rib corresponding to the centre of the abscess was for an inch and a half of its length black, dry, and deprived of periosteum upon its internal surface: it was found broken; the patient had been first attacked with symptoms of pneumonia, and was admitted into hospital on the third week of his illness, presenting the physical signs of a pulmonary abscess; he could not endure the slightest pressure on the affected portion of the rib. Dr. Bovell exhibited a preparation of caries of the rib consequent upon empyema, and contrasted the pathological appearance in both cases.

2. *Strangulated Femoral Hernia.*—Mr. Adams exhibited a portion of small intestine removed from the body of a female, who had died thirty-six hours after the operation for strangulated femoral hernia had been performed. Where the strangulation had existed, the intestine was of a dark red tint, and slightly coated with lymph, but there was no trace of ulceration, nor mark of gangrene. The chief peculiarity connected with the preparation was, that at two places the gut was suddenly narrowed, as if half constricted by a silk ligature, but the canal of the intestine was still pervious, and its walls entire; the interior presented an appearance somewhat similar to those observed in a dry preparation of the rectum. There was no effusion of lymph upon the peritoneum, except in the immediate vicinity of the intestine, which had been protruded. Mr. Adams inquired what was the cause of death in this case: he did not agree with Scarpa in ascribing death, in similar cases, to the violent distention of the intestine above the seat of the stricture, nor did he think with Mr. Travers, that the patient died because the obstructed state of the bowel continues after the operation; he exhibited drawings taken from other cases which had been under his own care, and in which it was impossible to attribute death to either of the above mentioned causes. Mr. Adams expressed his opinion, that in cases similar to those which he had detailed, death was owing to constitutional irritation.

3. *Peculiar Ulceration of the Eyelids, extending to the Bones of the Nose and Orbit.*—Mr. Smith exhibited a cranium, shewing the ex-

tensive ravages committed by a peculiar form of ulceration, which began in the lower eyelid; the entire of the malar and maxillary bones of one side had been destroyed, as had also large portions of the frontal, ethmoid, sphenoid, nasal, lachrymal, and spongy bones; the mouth, orbit, and nose formed one immense cavern, which communicated with the cavity of the cranium by a large perforation in the orbital plate of the frontal bone; Mr. Smith also presented drawings illustrating the partial progress of the disease, from its commencement up to its fatal termination; he mentioned the characteristic feature of the ulcer, and referred to the description given of the disease by Dr. Jacob in the fourth volume of the Dublin Hospital Reports. (*Museum Richmond Hospital.*)

Mr. Ferrall exhibited a series of preparations and drawings from cases which occurred in St. Vincent's Hospital, and illustrating two distinct forms of gastric disease, viz.:

1. Stricture of the pylorus from hypertrophy of the coats of the stomach at that part.

2. Cancerous disease of the pylorus, without stricture.

The symptoms in the first division were, progressive emaciation; a starved look; pain after eating; return of the food at uncertain periods in some cases, in others once in twenty-four hours; the quantity rejected greatly exceeding the amount of the ingesta, and consisting of half digested food and glairy mucus, of a chocolate or coffee colour; constipation; hiccup and sinking. On examination, P. M., the stomach was found in these cases distended and thickened; the section resembling that of a thickened urinary bladder and prostate gland; a probe could hardly be forced through the pylorus; the mucous, cellular, and muscular coats were hypertrophied, but distinct; *no ulceration*; lungs, liver, spleen, and kidney free from disease.

The symptoms in the second division were, an aspect of malignant disease; abdominal tumours, with or without ascites; vomiting of food in the early stage; little or none towards the close of life; pain irregular; occasional diarrhoea; mode of death variable; peritonitis in some cases. On examination in these cases malignant disease was found in the liver, omentum, or other parts; the pylorus is ulcerated, open, and its tissues confounded.

Mr. Ferrall conceived the first division interesting, as confirmatory of Andral's statement, that chocolate vomiting may exist without breach of surface. Both were important, as specimens of two distinct forms of disease to be met with in practice, and differing from each other in *localization; anatomical characters; progressive changes; in the mode of death; and in certain symptoms.* Thus, in the first form there may be no other disease; in the second there is malignant disease in other parts.

In the first the tissues are hypertrophied, but distinguishable; in the second they are disorganized.

In the first the case may be fatal without ulceration; in the second ulceration is an early change.

In the first the patient dies from inanition; in the second from

general taint, and the passage through the pylorus may be larger than natural.

In the first there is constipation, and the return of the food becomes more certain towards death; in the second there is diarrhœa frequently, and vomiting may cease altogether before dissolution.

4. *Large Abscess connected with the Kidney.*—*Abscess between the Bladder and Rectum.*—Mr. Cusack exhibited one of the kidneys, with the bladder and rectum, taken from a man who had long laboured under the general symptoms of urinary disease; the kidney was enlarged, and its calyces filled with purulent matter; between its posterior surface and the lumbar muscles there was a large abscess, which communicated with the kidneys by an opening in the ureter close to the pelvis; below this the ureter was thickened and its canal narrowed; another abscess existed between the rectum and bladder, below the reflexion of the peritoneum; it opened anteriorly into the bladder and posteriorly into the rectum, the prostate gland was remarkably small, the bladder much contracted, and its mucous membrane highly vascular.

In this case the patient, a man of dissipated habits, had been attacked with hæmaturia about five years ago; in 1837 he received a severe injury of the back, and was admitted into the Richmond Hospital under the care of Dr. Hutton; he presented symptoms of disease of the kidneys and abscess of the prostate; the abscess was punctured; he left the hospital, and nothing more is known of his case until he entered Stevens' Hospital, where he again presented symptoms of disease in the prostate; Mr. Colles punctured the abscess through the rectum, and gave exit to a quantity of purulent matter, and for some time the man improved: in about ten days, however, he passed urine as well as purulent matter through the rectum; this was followed by symptoms of severe constitutional irritation, succeeded by low fever, under which he sunk, preserving to the last the possession of his mental faculties.

5. *Cirrhosis of the Liver, with Enlargement of the Spleen.*—Dr. Greene exhibited the liver and spleen in this case; the liver was nodulated and contracted, and of great density; the spleen was nearly three times its natural size. In this case a tumour presenting an irregular surface could be felt in the right hypochondrium, when the patient made a deep inspiration. Dr. Greene wished to draw the attention of the Society to the fact, that in this case no ascites or anasarca whatever existed; the patient died with obstinate diarrhœa.

6. *Disease of the Liver.*—Mr. Denham exhibited the liver of a female, who died with symptoms of cerebral inflammation succeeding to hysteria; the liver was greatly enlarged, and contained numerous and extensive depositions of white encephaloid matter; the patient had none of the appearances of an individual labouring under hepatic disease.

7. *Congestion of the Uterus.*—Mr. Denham also presented the uterus of a woman aged fifty, who laboured under nymphomania for some time before death; the uterus was vascular; the patient died with symptoms of cerebritis.

January 19th.

Mr. COLLES in the Chair.

1. *Granular State of the Kidney.*—Dr. Corrigan exhibited a preparation, showing the kidney much larger than natural, and pale and smooth on its surface; the cortical tissue presented a uniform yellow colour, owing, in Dr. Corrigan's opinion, to an intestinal deposition of lymph, and analogous to that peculiar enlargement of the liver, to which the name "large, yellow, hardened liver" has been given. Dr. Corrigan presented another specimen, in which the kidney was rough and granular on its surface; the cortical substance was of very little depth; the whole organ smaller than natural, and altered in form. This second variety of the disease (the true Bright's kidney) Dr. Corrigan believed to be essentially a contraction of the matrix of the kidney, and never to have been in the state of the specimen first exhibited. Dr. Corrigan alluded to the opinion generally received, that there were two stages of the peculiar disease of the kidney described by Dr. Bright, and expressed his belief that this opinion was incorrect.

2. *Adhesion of a portion of the Small Intestines to the Fundus Uteri.*—Dr. Corrigan exhibited a preparation, showing several folds of the small intestine matted together and adherent to the fundus uteri, and the whole mass thus formed, again adherent to the brim of the pelvis; the adhesions were of long duration; the canal of the intestine was pervious throughout, though at one point slightly contracted. The patient from whom the preparation was procured was aged 40; she had laboured for seven months under repeated attacks of colic, constipation, and vomiting; she died in a few hours after her admission into Jervis-street Hospital, without having complained of pain in the abdomen; she appeared to die in the manner described by Mr. Adams, at a former meeting of the Society, from interruption of the functions of the intestine acting on a constitution previously weakened by disease. Dr. Corrigan alluded to the cases mentioned by Dr. Abercrombie, in which death took place, as the result of long continued exhaustion, arising from the interruption of the natural peristaltic action of the intestinal canal. Dr. Corrigan expressed his opinion, that in the treatment of many cases of ileus, it was of the utmost importance to attend to the sinking of the vital powers of the system, rather than keep the attention exclusively devoted (as it too frequently is) to the constipated state of the bowels.

3. *Aneurism of the Thoracic Aorta.*—Mr. Fleming exhibited a preparation of this disease, taken from a woman who died of gangrene of the lower extremities, in St. Vincent's Hospital. The tumour was of a pyramidal form, and nearly as large as the heart; it sprung from the aorta, where the ascending joins the transverse portion of the arch; it had passed upwards towards the right subclavian region and compressed the lung. The interior of the tumour was almost completely filled with laminated coagula, deprived of colouring matter and very firm; the origins of the primary

branches of the aorta were not interfered with ; but these, as well as many other parts of the arterial system, were studded with atheromatous and bony depositions ; the woman from whom the preparation was taken was aged 64 ; she had the aspect of one labouring under organic disease, but did not complain of any affection of the chest. There was no bruit perceptible.

4. *Cancerous Disease of the Bones*.—Mr. Smith exhibited a specimen of fracture of the sternum, near its centre, produced by the deposition of scirrhus matter in the anterior mediastinum ; he contrasted this preparation with a series of others, (amounting to upwards of twenty, and all taken from one subject) in which the cancerous disease of the bones was primary, the morbid matter having been deposited in the medullary tissue. Several of the bones were broken ; the woman from whom they were taken had cancer of the breast and liver.

5. *Fibrous Tumour of the Uterus*.—Dr. Montgomery exhibited the uterus of a female, aged 22, containing a fibrous tumour, so much projected into its cavity as to be nearly free ; with respect to its history, no information as to symptoms could be obtained ; it was, as already mentioned, nearly detached, and Dr. Montgomery expressed his opinion, that had the young lady lived longer, it would have been completely separated, and have dropped into the cavity of the uterus. It was remarkable as a specimen of the disease at a very early age. Dr. Montgomery next exhibited the uterus of a female in advanced life, shewing fibrous tumours in various stages and in different situations ; he alluded to the opinion that these tumours were not vascular, and incapable of being injected, and expressed his belief that the opinion was not correct. He exhibited a drawing of the contents of the pelvis of a female aged upwards of 60 ; the uterus contained a large fibrous tumour, the lower part of which had been completely filled with injection. Dr. Montgomery had satisfied himself that such tumours might occasionally take on a malignant action, contrary to the generally received opinion of authorities.

6. *Chronic Rheumatic Arthritis of the Hip Joint*.—Mr. Adams exhibited the recently removed parts in this case. The head of the femur was much altered in form, and the cervix shortened and changed in direction ; the ligamentum teres had been absorbed ; the acetabulum was deepened by the deposition of bony matter in the capsule ; the head of the bone was so locked into the acetabulum as to require the employment of considerable force for its removal ; all the structures of the joint were in a state of great vascularity ; the synovial membrane of the cervix femoris was highly vascular, and productions from it of a conical form, half an inch long, surrounded the basis of the head ; these were of the same form and appearance as those vascular fimbriæ delineated by Cruveilhier, and which had been found in the knee joint of a patient who died with an analogous disease of the knee joint.—(See Cruveilhier, *Livraison*, 9, Plate 6.) The muscles surrounding the joint were soft, flaccid, and yellow. Mr. Adams exhibited several drawings, illustrative of the external

character and pathology of this disease; he mentioned that when the hip was affected, there was, in general, no disease of any other joint.

The Dublin Hospital Reports.—A new volume of this important work is announced as being in course of preparation. On the high and justly earned character of the Dublin Hospital Reports, it is unnecessary for us to make any observation: for many years previous to the publication of the Dublin Medical Journal, this work and the Transactions of the Association of the College of Physicians were the only medical works emanating from Dublin in which reports and essays on surgical and medical subjects could be published.

As Editors of the Dublin Medical Journal, we beg to state that we entertain no apprehension that the forthcoming publication can in any way injure the interests of our Journal; so great has been the impulse given to medicine and surgery in this country during the last few years, that there is abundant material to support many publications.

We are unconnected with the editorship of the forthcoming volume of the Reports, but we cordially wish it every success, and have no doubt that its editors will produce a volume alike creditable to themselves and to the school of Dublin.

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.

Introductory Address, delivered at the first Meeting in the Rotunda, Nov. 14, 1838, by EVORY KENNEDY, M. D., Master of the Lying-in Hospital, one of the Presidents.

Gentlemen,—It is with feelings of extreme pleasure that I find myself enlisted under the banners of the Dublin Obstetrical Society; more especially as I see around me such an array of unflinching and determined fellow-combatants, who have girt up their loins for the good fight.

With such a demonstration of the popularity and usefulness of a society of this nature as this meeting affords, it may appear superfluous to offer any observation on the utility of such an association.

It is, however, a good general principle, and one particularly applicable to our calling, never to take anything for granted; but to investigate and satisfy ourselves. Let us then propound the question: What are the objects and advantages of such a society?

Taking these in their most comprehensive form, it may be answered—to improve the obstetric practitioner; to extend the bounds of his science; and thus directly, and indirectly, to benefit our species.

These objects are in no manner so likely to be accomplished, as by the establishment of a society, having for its object the cultivation of the branches of knowledge for which we are more immediately responsible—branches sufficiently extensive and obscure, to justify the formation of a distinct society for their elucidation.

The principal of division of labour, as well in science as in the arts, is so well understood to be the best means of arriving at excellence, that it is unnecessary to dwell upon it at present.

The public and the profession have evinced their opinion of its necessity in our case, by marking us, in practice, as a distinct class; separate from physicians and surgeons.

Let it not however, be imagined, that the objects of this society are to be restricted to the consideration of the process of parturition. Far otherwise; it is intended to comprise subjects interesting to the general practitioner, the accoucheur, the physiologist, the naturalist, and the jurist.

Thus its range will be deemed amply extensive and interesting, when we mention, that amongst the subjects determined upon for our investigation, in addition to parturition, are the structure, treatment, and diseases of females: The physiology of reproduction, with its comparative anatomy: Foetal structures and physiology: Infantine development and diseases, and that neglected but very necessary branch of our art—medical jurisprudence.

The constitution of our society is admirably calculated to carry out our objects.

Whilst it encourages the practitioner and junior members of the profession, to take an active part in its proceedings, it does not exclude the student from the advantages to be derived from such an association.

It thus calls out his exertions from the very commencement of his career, and affords higher and nobler objects to bound his field of enterprize, than the mere obtaining a legal qualification to practise. —From my heart do I pity the unfortunate wight, who makes nine square inches of asses' skin, inscribed with a few lines of questionable Latin, and half-a-dozen hieroglyphical patronymics, the alpha and omega of his daily and nightly aspirations. Such an individual will never distinguish *himself*, nor benefit his *species*. The existence of such a Society as this, will explain to him that he has other and more moving inducements to exertion. The nightly trials of skill on this floor, with that most powerful of all weapons, the tongue, will shew him, that it is quite possible to have obtained a degree, and yet not to be a physician; that an individual may have legal possession of a diploma, and yet no soul would mistake him for a surgeon; nay, that he may have attended the *Lying-in Hospital*, and yet glory in his innocence of midwifery, and the diseases of women and children.

If the energies of the members be well directed, by your admirably selected Managing Committee, assisted by the counsel and advice of those distinguished individuals whom you have elected to honorary appointments in the Society; the mind of the obstetric student will be opened, and his attention directed, to a more enlarged and important study of this branch of medicine; in place of having his intellect cramped, and his views narrowed, by devoting himself to the acquisition of a few *cruxes*; I pray you, gentlemen, excuse

the vulgar phrase; instead of his desideratum being the ascertaining the line of examination that this or that examiner may be prone to, his exertions will be directed to investigate the subject of his study, on the most enlightened, extensive, and practical scale.

He will not rest satisfied with a primer or trituated knowledge of his subject, but will follow the bent of his mind in investigating minutely and critically its bearings and details; urged by a conviction, that such a knowledge, and such a one *alone*, will enable him to maintain his station as a member of this Society.

Even the individual who has an unfortunate antipathy to study, or whose mental constitution is opposed to the labour and exertion necessary for obtaining information, (in common parlance,) the idler, shall be improved by this Society. The very mental apathy and physical objections to study and work, which afford so insuperable an obstacle to the acquisition of information in the ordinary method, induce him to attend here as a relief from his *ennui*, and a source of amusement and excitement. And if, with such a stimulus and opportunity, he gain nothing more, at least his attendance here will serve to convince him of his own ignorance, which is one of the first steps towards improvement.

It may be urged, that its effect will be, to draw the student from his more serious, or what may be termed, his scholastic duties, and thus interfere with more important pursuits;—this I most emphatically deny. I appeal to those who now hear me, whether the most distinguished members of learned societies, be it in divinity, law, or physic, have not been the best informed individuals in their different sciences, and attained the highest rank as, divines, lawyers, and physicians, in their after career.

In fact, the industrious student, like the miser, seeks to add to his hoard of mental wealth; the more he obtains, the more he seeks to gain; his mind, so far from being distracted from its proper course of investigation, by enlarging its field of labour, is driven to investigate more philosophically the essential points, and to attach its true merit to each.

The effect of this Society upon the student will in other respects prove most beneficial. From the habit of speaking in public he will acquire a precision and accuracy in communicating his ideas, an ease and dignity of carriage, and composure of manner, which will prove of great importance to him in his subsequent professional intercourse. It will further impart to him a quickness and facility in arriving at his conclusions, with a determination of character in giving expression to them and carrying them into effect.

The result calculated to be produced by a Society such as this, upon the individual engaged in practice, is even more important than that upon the student. The practitioner in medicine may, in the truest sense of the word, be still considered as a student. If the mathematician continue to learn, whilst he continues to live, how much more must the individual, whose mind is bent upon the study of the human frame, and the treatment of disease in its endless va-

rieties, be pronounced as adding to his stock of knowledge daily, and' alas! even at the close of his career, however extensive his opportunity of observation, however great his grasp of intellect, however devoted to his calling, how much has he left unlearned!

From our defective system of preliminary instruction, and the energies of the student being too often misdirected in his preparatory studies, it is, I regret to say it, an unquestionable fact, that in many instances, the individual only really begins to acquire a correct knowledge of his profession, when he has obtained a legal qualification to practise; his previous efforts having been directed to the acquirement of mere scholastic or A B C information. Then how is his mind so likely to be directed to true utilitarian pursuits, as by mixing with the members of an assemblage such as this, influenced and actuated by one common object, the pursuit of that science, which to them is every thing. The junior practitioner again, however previously well-informed, has in our calling, but too frequently, his unwished for and unwelcome "hours of idleness." How can he more appropriately employ these than by bearing a part in the interchange of information which this Society calls forth? However erudite or industrious he may have been, he will always find a something to be learned from those, even his juniors, who have attentively considered and investigated the subject under discussion. The youthful mind, if it approach the consideration of a subject, unrestrained by the judgment and experience of age, *at least* enters upon its investigation untrammelled by prejudice, and unbiassed by habitual impressions. If then, in its buoyant and unfettered flights, it occasionally soar into unexplored regions, whilst its real discoveries, which may be of great importance to science and humanity, are fostered and encouraged; its extravagant wanderings are *no where* more effectually checked and controlled than in such a Society as this. For myself, I assure you, that I have frequently received suggestions and hints from students that would have done honour to sages in the profession. I would therefore respectfully urge upon the practitioner to avail himself of this Society as well to add to his stock of information as to his character. The day has passed when the physician can succeed to the confidence of the public without some degree of exertion. It will not now suffice that he should, with Martial, thus briefly describe his occupation:—

"Prandeo, poto, cano, ludo, lego, cano, quiesco."

To succeed he must, whether by industry or talent, distinguish himself from the mass, or his dinner will be meagre, his potations scanty, and his songs melancholy. When we have obtained our licenses to practise, too many of us look as carelessly upon the means of adding to our professional information, as if we were converts to Moliere's views, and had resolved upon "becoming doctors at the expense of our patients," selecting this profession as did Sganavel, "Because whether we do good or mischief, we are always paid at the same rate;" and "as owing to the discretion of the dead, we can, unlike other craftsmen, spoil a man without its costing us any thing." Yet

a doubt cannot exist upon the mind of the unprejudiced individual, that we virtually act upon Sganarel's principle, if we omit any opportunity of investigating disease, or making ourselves acquainted with the knowledge and experience of our more industrious fellow-workmen, in the extensive field of medical science. There cannot be a question, that our science is strictly in its infancy; that consequently every practitioner is an investigator; therefore it is not only the bounden duty of every man, as well to communicate whatever he may observe new or original, as to put himself in possession of the facts and improvements daily arrived at by others.

The advantages of a society of this kind are then manifold and obvious. It stimulates the apathetic student to exertion; it urges the idler to industry; it encourages the working man by the proofs afforded of his superiority; it operates as a wholesome check upon the forward and self opinionated, by placing him in his proper level. Upon the whole, it ensures the extension of the bounds of science, by *disseminating* what is already known, whilst it guides and leads us towards adding to our existing knowledge.

Let us not conceal from ourselves, however, that there are objections which may be urged against societies of this kind, grounded upon abuse in their management. If this room be permitted to become an arena for discussions and arguments, illustrative only of the ingenuity or verbosity of the combatants. If reason and knowledge be lost sight of, and talking and temper permitted to usurp their place, then indeed will this Society prove injurious and pernicious.

I know no one so dangerous in an association of this or any other kind, as the individual who is gifted with the command of language, provided he be not equally endowed with judgment: tempted by his powers of oratory, he is, to use the *elegant* language of the senate, always "upon his legs." Trusting entirely to his organ of speech, he deems it quite unnecessary to cultivate his organs of thought: he occupies the attention of the Society either with a string of unmeaning, but elegantly turned commonplace expressions, possibly interspersed with a few flippant or pointed periods; but sits down without conveying one new idea, solving a doubt, or elucidating in the slightest degree the matter at issue; and leaves on the mind of the listener a conviction, that the communication and its author are, "*vox et præterea nihil.*" The pugnacious individual is by no means rarely to be met with in learned societies; equally liberal of his speeches as the gentleman already described, he is less choice and elegant in his language; acute beyond measure in detecting the faults and errors in an author's treatise, and in the observations of the members, he is particularly obtuse in discovering their beauties. From the *brusquerie* of his manner, and the ill-natured pleasure which some feel in hearing their neighbours abused, the pugnacious gentleman at first amuses, but eventually his *animus* disgusts us; he loses his influence from our not appreciating his motives; and he is voted a public nuisance.

My mind's eye now alights upon a very different class of person. Shrinking from public view, and retiring within himself, note the dif-

fidest but talented youth ; observe his extreme regularity in his hospital duties ; his thoughts devoted to the acquisition of solid information in the only legitimate manner, by observing, for *himself*, the different shades of disease. Follow him to his chamber, and witness his labours to put himself in possession of the experience of those who have thrown a light upon our branch of science. Eventually, teeming with information, his learning tempered by judgment and experience, he enters this room for the purpose of adding to his stock, nor dreams that he is so much more competent to *impart* than *receive* instruction at our hands. When you detect amongst yourselves such an individual, and I feel a true pride in testifying that we are not confined to the production of *one such* solitary example, allow me to introduce him to you in the words of our immortal bard, “ I beseech you let his lack of years be no impediment to let him lack a reverend estimation, for I never knew so young a body with so old a head. I leave him to your gracious acceptance, whose trial shall better publish his commendation.”

In conducting our discussions, I would with much earnestness call upon you, gentlemen, to attach their real merits to the statements and opinions propounded by other members, however much they may appear at first opposed to *your own* views. How admirably has our accomplished and elegant satirist observed,

“ That wit, like faith, by each man is applied
To one small sect, and all are damn'd beside.”

How many of us, if we spoke our conscientious convictions, must admit, that we have maintained and supported, as right at one time, what experience has at another time *proved* to be wrong ; how often have we evinced in argument, an ingenuity and pertinacity worthy of a better cause, in maintaining errors, merely because *our judgment* or mental powers were called in question ; not resting satisfied, until, either from superior *logic*, or “ more capacious lungs, we had wearied out our opponent, and made the *worse* appear the better cause ;” or, falling into such hands as could wield truth more effectually than we could logic, we have, to the satisfaction of unprejudiced persons, been prostrated by its overwhelming influence ; and even then, to our shame be it spoken, often “ though vanquished, we have argued still.” But how degrading is the consequent conviction upon our minds, when the stimulus of argument and opposition has ceased, and reason and truth have resumed their seat in our perverted judgment. Then we feel that, urged by petulance or self-conceit, or even more questionable motives, we have prostituted the powers of our God-gifted minds to purposes the most unworthy, and such as admit of but one charitable excuse—that of having argued on the wrong side from ignorance. Nothing is so likely to engender obstinacy and persistence in erroneous views as ignorance, or partial information. The enlarged and cultivated mind is invariably the least self-opinionated and most open to conviction. It is a curious fact, that the uninformed mind, whilst it is ever ready to deny and protest

against the improvements and discoveries of others in the same field, is always assuming to itself the merit of original view; unlike our celebrated countryman Lord Roscommon, of whom it was so happily observed—

“To him the wit of Greece and Rome were known,
And every author’s merit but his own.”

Grossly ignorant of the literature of their profession, these uncalculating personages rush into public or into print, and claim as original, doctrines already either current or condemned as obsolete and untenable, and thus verify, in their cases, the converse of my Lord Roscommon’s eulogistic couplet. Nor does the obtuseness of the professional public as to the merits of their productions, or the caustic flagellations, or deadly onsets of those literary hobgoblins, the reviewers, deter these authors from promulgating their *original lucubrations*:

“Damnation follows death in other men,
But our damned poet lives and writes again.”

On the other hand, gentlemen, do not, I beseech you, be deterred from lending your assistance in the improvement of our art, by a culpable scepticism in either your own powers, or the necessity for individual exertion.

The learned and experienced practitioner, from an excess of caution engendered by his very knowledge and experience, is, although unwittingly, often a serious bar to the extension of his science.

Not satisfied in withholding from the craft the results of his own observations, he is too prone either to deny the facts, or to oppose to all reputed discoveries of others, the trite observation of the great preacher, “Verily there is nothing new under the sun.”

The experienced practitioner, particularly when invested with public trust, affording him more ample opportunity of observation, does not honestly discharge the trust reposed in him, if he neglect to communicate to his brethren, for the benefit of mankind, the results of his experience. It is not necessary that he should alight upon any extraordinary discovery to render his communication of utility. He is quite as usefully employed in testing the accuracy of reputed discoveries; and as an honest juror in pronouncing the degree of confidence and trust to be reposed in them. It is a debt due by every man in whom public trust has been reposed, to make that trust subservient to the advancement of his art, when the doing so is not at variance with the performance of his more immediate duties.

This association will be very instrumental in effecting such desirable objects. The senior practitioner will here be afforded a simple and easy method of communicating to his professional brethren the results of his experience and observation. His communications will meet with the attention and consideration in this room, that his standing, talent, and experience entitle him to; and whilst his discretion tempers the youthful ardour and enthusiasm of his listeners, he, on the other hand, will imbibe from the junior mem-

bers a share of that zeal so essential to the investigation of medical science, and shake off the mechanical apathy in his habits of considering and treating disease, so calculated to retard improvement, and to convert the physician into the mere sordid machine, or, the ruthless empiric. In fact amongst all, a praiseworthy emulation will call forth general exertion, and I confidently anticipate, an impulse being thus given to our immediate science, as honorable and creditable to its promoters, as it will prove beneficial to the interesting class of the community committed to our more especial charge.

On the eve of our thus associating, for the purpose of advancing our common profession, I should, gentlemen, deem it an act of injustice, did I omit to acknowledge the debt of gratitude which we owe to those distinguished individuals who have heretofore laboured so successfully in the same vineyard with ourselves, through whose exertions human nature has been generally, and our immediate science more particularly benefited; I confess, that in stating this, I feel an inducement no less powerful than that of gratitude, urging me to the present task—namely, an anxiety to stimulate my hearers with those honest feelings of emulation, which, if acted upon with zeal and energy, may give us sanguine grounds to hope, that the same mode of justice shall be one day accorded to the memory of some of those whom I now address. Although we may conclude that much less necessity existed for midwifery as a science in the early ages, when the simplicity of manners rendered the variations from natural states much less frequent, yet we know little more of it than that it was for many centuries (as amongst the Hebrews and Egyptians) either confided solely to the female attendant, or the assistance of the male practitioner was merely called for in the most extreme cases. This appears to have been the case also in the more polished and luxurious ages, when the Grecian and Roman matrons must have rendered themselves quite as obnoxious to those causes, which by entailing diseased and altered states of the system, lay the foundation for those sexual and constitutional changes, which in our own times convert what ought to be a purely natural, though a painful process, into a dangerous and not unfrequently fatal disease.

Many of my listeners are, no doubt, familiar with the tale of Agnodice of Athens; this estimable and enterprising female, convinced of the disadvantages under which her sex laboured for want of properly informed persons to attend them in their confinement; and being prohibited by her sex from studying anatomy, which she justly considered absolutely necessary, cut off her hair, assumed the male attire, and thus disguised, attended the lectures of the celebrated Hierophilus. She had fresh difficulties to contend with in practising afterwards, as she found it next to impossible to persuade her patients, that the sex she had thus for a time adopted was not her true one.

I should only weary my listeners in repeating an oft told tale, did I go into the history of midwifery generally; and in point of fact, we are scarcely justified in considering it as distinct from medicine and surgery, throughout its two first great periods,—say, from the

time of Hippocrates to the decline of the Arabian school, and from that period to the invention of the forceps.

In treating on the subject then during these periods, it would be virtually treating of medicine generally.* My more immediate object, with your permission, shall be the touching upon our own or Irish branch, and that chiefly with the view of stimulating others to investigate at greater length, so interesting and neglected a subject. Whether from our native modesty, so universally proverbial, or our not attentively inquiring into the matter, we, Milesian Doctors, are too much in the habit of applying to ourselves the quaint observations of Jonas, in his life of Saint Columban, "that he would not compare himself to other learned doctors, for they are rich with the tears of the balsam of Engeddi, and the flowers of spices from Arabia; whereas, to us from Ireland, it is scarce allowed that our butter is fat," or, in the classical language of the learned writer, "Nobis ex Hyberniâ vix butyrum pinguescit."

Although we find no specific notice of any medical faculty having been established in the Mur-Ollamham or University founded at Tarah in the year of the world 3240 or thereabouts, by Eochair, King of Ireland, universally denominated, from his excellent learning and abilities, Ollamfodlah, or Doctor of Ireland, it is not too much to suppose that such may even then, or shortly after, have been established by this very learned and judicious monarch. It is quite possible that medicine attracted the attention of our Irish literati even before the time of Hippocrates, and if not, that at least his writings were very soon communicated. Be this as it may, we find it placed beyond a question, that medicine and surgery were not only cultivated, but successfully so, in Ireland in the year 3826, or 137 years before Christ. It is distinctly recorded that Josina, the ninth King of Scotland, and one of the successors of Fergus, who, according to Bale, died in that year, but who Lesley states died 161 years before Christ, was, by his parent's permission, sent to and educated in Ireland among the physicians and surgeons of that country, until he arrived at man's estate, and that he always held them in great esteem. He is even said to have written a work "De Herbarum Virtutibus et Viribus."

There can be little doubt that in the middle ages, or in what may be termed Ireland's palmy days of learning, when she stood out as a beacon of civilization and knowledge amongst the mass of darkness that overwhelmed surrounding nations, the science of medicine remained not uncultivated; but, alas, we are at present deprived of the power of investigating this matter, any clue that existed towards it has been lost and scattered to the winds by our colleges and other scientific bodies throwing away the opportunity recently afforded of

* The reader who wishes to inquire more at large into medical literature, will find in the Dublin Medical Journal for January, 1839, an able, erudite, and lucid summary of the history of medicine and surgery, the substance of an Introductory Address, delivered at the College of Surgeons, by our distinguished Surgeon General, Sir Philip Crampton, Bart.

possessing themselves of a magnificent collection of unpublished Irish medical writings which was calculated to have thrown so much light upon this most interesting subject. The physicians, in the earliest periods of our history, were individuals necessarily attached to great families. It was strictly an hereditary office or profession, descending from father to son through ages. In this way we find that certain names were coupled with the practice of the craft, thus the O'Sheils, the O'Riellys, and some others, were celebrated for ages. Meagre as our information is at these periods, I still sanguinely anticipate much light being thrown upon our branch of history, by the investigation carrying on in that magnificent national undertaking, the *Memoir* of the Ordnance Survey of Ireland; where such minds as those of Colby, Larcom, Petrie, and Donovan, are directed to it, what may we not expect?

Physic, after the twelfth century, declined in Asia, and the Greek manuscripts, which were removed from Constantinople by Gaza, soon after that city was taken in 1453, became dispersed over Europe. This was much facilitated by the splendid discovery of the art of printing, which took place about that time; an art, which when we look at the effects it has produced upon the moral and physical world for the last three centuries, nay, what this vast engine has accomplished within our own recollections, in improving science, dispensing knowledge, even overthrowing kingdoms, we could scarcely accuse of superstitious ignorance those who would, at its discovery, ascribe its powers to witchcraft.

It is not generally known that amongst the few medical writers who published after the revival of letters, Irishmen were by no means deficient. In 1320, Edward the First's physician wrote the celebrated *Rosa Anglica*, and his work *De Modo Generandi*. In 1530, Rhodion, a physician practising at Frankfort on the Main, published his work *De Partu Hominis*; and in this very same year we find Dr. Theobald Anguilbert, an Irishman, recorded as having published a curious volume on physic. It is not one very pertinent to our subject, but so far interesting as indicating that the members of our craft were, so early as 1530, not only convivial persons, and in good society, but, as many of them do at the present, added lustre to that society. The work I allude to was "*Mensa Philosophica, or a Treatise on Table Talk, with some jokes and witticisms annexed.*" In 1538, shortly after the publication of Kenny's Catechism, which was the first book printed in Ireland, Dr. Thady Dun, or, to speak more classically, "*Thadeus Duns,*" published his "*Epistolæ Medicinales.*" He, although a native of Ireland, was obliged to go abroad and practise at Locarno in Switzerland; nor do we find any publication on medicine by an Irish physician before his time. He treated of oxmels, pleuritis, and the joints, and published a work expressly, "*De Morbis Mulieribus.*" He mentions a case illustrative of the efficacy of the warm bath, which he certainly medicated in tedious labour; and it would be well if our more enlightened practitioners of the nineteenth century, in this his native country, rendered themselves familiar with it.

Desmond Omeara, Oxonian, was the next Irishman who published on medicine. In 1619 he wrote a *Treatise on Hereditary Diseases*. The family was very much distinguished in Irish medical literature, both his son and grandson having subsequently attained eminence as authors and physicians in London. By much the most distinguished Irishman, however, that we ever had was Doctor Neil O'Glacan (Nellanus Glacanus) a native of the county of Donegal. This extraordinary man appears to have attracted the praise and esteem of every college in Europe by his learning and writings, as honors and solicitations were heaped upon him from all quarters.

His principal writings were "*Tractatus de Peste*," published 1629, and *Cursus Medicus*, published 1655. He was appointed physician to the King of France and a privy councillor of that kingdom, and was successively Professor of Physic in the Universities of Toulouse and Bologna.

The degree of estimation O'Glacan was held in all over Europe, may be inferred from the encomiastic verses published upon him by Peter Von Adrian Brocke, Professor of Eloquence at Lucca, and translated by Harrison. As an Irishman I feel so proud of this meed of praise to a fellow-countryman, that, even at the risk of being prosy, you must permit me to give you an extract from them. The poem commences,

"Hoc Glacan, nostra Glacan celeberrimus arte."

"With healing art he arms us to repel
Dire troops of agues and of fevers fell.
Whatever ill the patient may endure,
Known, or unknown, unerring is his cure.
Nor more instructions from my muse inquire,
The sons of science him alone admire.
His works all Gallia with attention reads,
Sucks in his knowledge and reveres his deeds.
Hence Belgia smitten with his art divine,
Far distant Spain, and thou who drink'st the vine;
Hence Italy with ample presents sued
The sage when absent, and with honors woo'd.
Bononia, now, with skill imbibing ears,
Devours his lectures, and applauding hears,
While he unlocks the healthy mystic stores
Of princely Galen, and his path explores.
His country, blest in such a son, may boast;
And this be thine Ultonia's ancient coast."

After the revival of literature medicine appears to have attracted not merely the attention of those who practised it as a lucrative profession, scientific amateurs also lent their assistance in exploring its wide and useful fields. Thus Robert Boyle, the most celebrated member of that extraordinary Irish family, amongst his multifarious investigations, threw much light upon the healing art; and even elucidated matters bearing upon our more immediate branch of it. In 1626, he investigated, philosophically, the subject of transfusion, and his observations as to the formation of the chick and foetus are still worthy our attention.

Stearn, who lived in 1622, was more celebrated for his general than medical writings.

Allen Mullin, or Moulin, in 1690, treated of the anatomy of the eye, and of monsters.

Sir Hans Sloane, who, although an Irishman, made London the seat of his exertions, flourished in 1677, and became President of the Royal Society; he, however distinguished himself more as a naturalist than in his profession.

I should be guilty of a great dereliction of duty to my native country, however, if I omitted here to lay claim to the discovery of the present fashionable, however questionable, system of animal magnetism: without waiting in our progress to discuss its merits or utility, suffice it to say—animal magnetism was practised by a fellow-countryman of ours, nearly 200 years since.

About 1666, Valentine Greatrakes of Affane, in the county of Waterford, by passing his hand over the part affected, in various diseases, obtained great character. He was so famous as to be sent for to England by the Court and Royal Society; and Mr. Love, in his Memoirs of the Earl of Orrery, informs us that "*the Royal Society, and OTHER modern philosophers,*" not able to dispute the fact, found words to define it, and called those strange effects, "a sanative contagion in his body, which had an antipathy to some particular diseases, and not to others." Robert Boyle, as well as Drs. Whichcot, Cudworth, and Patrick, eminent men in their day, bear testimony to his powers. Mr. Thoresby gives some remarkable instances of cures performed by this gentleman, in the Philosophical Transactions.

This plan, assisted by exorcism, was also attempted by James Feenachty, an Irish priest, about the period of the Restoration. See the Irish remonstrance. He, as well as Mr. Greatrakes, however, eventually lost his fame.

Doctor Thomas Molineux distinguished himself much as a practitioner and author in this city; he wrote largely upon natural history, and in 1698, proposed the extraction of the stone from the female bladder without excision.

In the same year Dr. Bernard Connor, physician to John Sobieski, of Poland, wrote his work *De Humani Hypogastri sarcomatei*, and *Dissertationes Medico-physicæ*; he also wrote a curious discursive treatise entitled, *Evangelium Medici*; in which, whilst treating of the suspensible laws of nature, he forestals John Hunter in his views of the possibility of human generation being effected without contact of the sexes. He, like many of our most promising Irish authors, died young and an alien.

It would be scarcely justifiable in thus briefly tracing the early progress of our profession in Ireland to omit a work written upon the other side of the question, by a very distinguished individual in his day, John Toland, born in Ennishowen, in the county of Donegal, in 1670. This individual rendered himself notorious by his unorthodox writings on divinity; his celebrated treatise entitled "*Christianity not mysterious,*" having been burned by the common hangman, in obedience to orders issued by the House of Commons and the grand juries of Middlesex and Dublin. Having so palpably failed against divinity, his next

attack was upon physic. In his last illness he fancied there was some mismanagement on the part of his physician, he therefore discarded him, and treated his disease himself; he subsequently grew better for a time, and entertained some hopes of a recovery, when he published "A Dissertation to shew the Uncertainty of Physic and the Danger of trusting our Lives to those who practise it." A work which attracted much attention for the moment. The result of his own case, however, rendered his views more than equivocal, as he died within two months after the publication of his antimedical manifesto. We are scarcely warranted in esteeming Dr. Boate, the author of "Ireland's Natural History," who lived in 1649; Edmond Borlasse, the author of the "Irish Rebellion," who lived in 1680; or Sir William Petty, the head of the Shelbourne family, in 1650, as Irishmen, although they were physicians, and practised, some of them, in Ireland. The first was a Dutchman, the two latter Englishmen; they were more noted as statistical and general writers, however, than as medical authors.

In taking a retrospective view of our more immediate branch, we shall not delay to specify the writings or labours, medical or general, of subsequent physicians, which became more numerous and valuable from the stimulus and respectability given to the craft, by the establishment of the College of Physicians, which was founded by charter of Charles the Second, in 1667; and reincorporated by William and Mary, in 1692. We feel the less hesitation in this, as there is reason to expect that the country that produced a Goldsmith and Glacan will no longer have the history of its physicians alone neglected. Indeed, since entering on this investigation, I have been informed, that Drs. Stokes and Aquilla Smith, whose industry and research render them peculiarly fitted for the task, have been turning their attention to the matter.

It will be recollected, that Ambrose Pare, who may with justice be styled the restorer of surgical knowledge in Europe, had been one of the first to shake off the dark clouds of ignorance in which medicine had been enveloped. The progress of knowledge in polite literature had proceeded with rapid strides; Italy had long boasted of her Dante and Petrarch, and Tasso had penned his immortal poems, whilst France had her Marot and Rousard, and England her Bacon and her immortal Harvey. This progress served to render the fair sex more enlightened, and those absurd prejudices which had heretofore influenced them in rejecting the assistance of male practitioners in their labour, yielded before their more improved and expanded judgments. Male practitioners were now had recourse to in all cases of difficulty; and as the facility of acquiring information on the subject increased—increased also the skill and experience of the practitioners, as proved by the less mortality amongst pregnant women and infants. Guillemeau, Rousset, Pineau, Bourgeois, Peu, Portal, but above all Mouriceau, had in France been bringing the science into a more enlightened state; whilst Rounhuysen, Daventer, and Ruisch, in Holland; and Clapham, the Chamberlyns, Mowbray, and Manningham, in England, were engaged

in the same effort ; Sir Fielding Ould of this city, and subsequently Master of this hospital, about the same time, say 1741, published his treatise on Midwifery, in which he so admirably describes the progress of the head through the pelvis, explains the development of the uterus in pregnancy, and combats very boldly some of Daventer's, and even the then apostle in midwifery, Mauriceau's, views. He invented the *terebra occulta*, which, however, has fallen into disuse.

From the want of proper instruction in the art of midwifery in this country, whilst enlightened individuals practised it in France, it fell into the hands of a low set of practitioners here. The College of Physicians took no interest in the matter, and there was no College of Surgeons in existence in Ireland until 1764. Its low ebb accounts for the paucity of writings upon the subject about this period. Sir Fielding Ould, speaking of his time, 1740, observes, "Though it cannot be denied that there may be as good physicians and surgeons brought up and educated in Dublin as in any part of the world, without being obliged to go to any other country for additional experience, yet I cannot help declaring the necessity for being indebted to France, for the true knowledge of practical midwifery. For the opportunities which are there met with are nowhere to be found, without which it is hardly possible to be an adept, namely, those of ocular demonstration of women being delivered, both in natural and preternatural labours."

Doctor Bartholemew Mosse, a man of the most humane and enlightened mind and energy of purpose, did not, like Ould, rest satisfied with merely deploring the want of a midwifery school ; on the contrary, convinced as well of the want of an asylum for destitute females in their most trying hour, as the advantages that must accrue to the community by furnishing those who meant to practise midwifery with a means of instruction *at home* ; or, as the words of the preamble of his charter states, "In order to prevent the necessity of their going abroad to study midwifery ;" contemplated the erection of an hospital for those joint objects. This, after encountering difficulties and obstacles that would have deterred any individual but himself, he at length accomplished on a scale of magnificence worthy of so great a mind. In 1767, under the sanction of a charter granted by George II., the hospital was opened, and he was appointed the first Master. It is deeply to be deplored that he only survived the accomplishment of his great object about two years, as, no doubt, his energetic mind would have induced him to afford us the lights of his experience, had he not been so prematurely removed. He has, however, left us, in the establishment of his hospital, a book beyond all others, the "*book of nature*."* Meeting, as we do, within the walls raised by Mosse—for you are, no doubt, aware that

* There is little doubt that Mosse's master must have contemplated the establishment of a ward for the diseases of females, in connexion with the institution. This step, so much required to render the school of midwifery more complete, was accomplished about three years since. I still sanguinely look forward to the establishment of an hospital for the diseases of children, which will leave nothing wanting to ensure the fullest advantages to midwifery students.

the Rotundo was built by him as a means of income for the support of the hospital—I cannot close this brief notice without applying to him Wren's epitaph, which I think far from dishonoured in its application,

“ Si monumentum quæris, circumspice.”

The school of midwifery in France received an immense impetus by the labours of Levret, Petit, Astruc, Solareyes, Le Bas, and above all, Baudelocque; in Holland and Germany, Roederer, Plenck, and Stein: whilst in Britain, Giffard, Smellie, Burton, and more lately, Denman and the Hunters, Kelly and Douglass, had been adding to and systematizing our increasing stores on this subject.

Practitioners in midwifery were with difficulty recognized by the College of Physicians, this body only admitting them as licentiates to practise midwifery, and this as a great favour to a chosen few. My friend, Dr. Hugh Ferguson, whose antiquarian lore is so unquestionable, informs me, that Dr. Hopkins, author of the *Midwifery Vade Mecum*, and Master of the Lying-in Hospital, was the first physician practising midwifery elected as a licentiate into the College of Physicians; and that Sir Robert Scott, Dr. Grey, and Dr. Fleury, three most respectable and eminent practitioners, were in one day refused admission to the college.

In 1784 was published by Dr. Sims, a systematic posthumous work on midwifery, written by Dr. Forster, who had been one of the assistants to the Lying-in Hospital. His practical observations, both on midwifery and the management of infants, are in general sound and judicious. He treats, at some length, of puerperal fever, and questions the correctness of its nosological epithet, conceiving it possible that a similar disease may occur in man, and actually affirms his having met with two such cases.

Mr. Dease, surgeon of this city, published, in 1783, his *Practical Observations on Midwifery*, with which you are no doubt familiar.

Dr. M'Bride, a learned man, and the author of a standard work on the practice of medicine, in his day practised midwifery most successfully about this period. He however subsequently devoted himself exclusively to the practice of medicine.

Towards the close of the last century and beginning of the present, in England, Rigby, Merriman, and Ramsbottom; Louvergat, Casuron, and Maygrier in France, whilst Stein, Boer, and Stark in Germany, added much to our art.

We were, however, well represented in Ireland, in an author by Dr. Joseph Clarke, and a sound and eminent practitioner by Doctor Thomas Evory. These individuals were too well known by many who now hear me, to require any faint eulogium that I might be capable of pronouncing upon them.

Doctor Joseph Clarke's practical writings and discoveries, in fact, constitute our present guide in the treatment of disease, and that, although many of us are unaware of their authorship; need I allude to his successful researches in trismus nascentium, his sound directions in which disease alone (whilst he might be said to have scarcely as yet assumed the toga virilis) have saved thousands of human lives.

His scientific and judicious treatment of infantile diseases has proved scarcely less successful in its result. His master-mind early appreciated and availed itself of the statistical system of medical investigation as applied to midwifery. The publication of the Report of his seven years' Mastership, brief but redundant with sound and most interesting matter as it is, may be said to have constituted an epoch in the history of his art.

Need I bring under your notice the practical observations of your President and distinguished practitioner Doctor Labatt, more especially his treatises on Ruptured Vagina, Prolapsus of the Uterus, and Vaccination. You are no doubt well acquainted with the Report of your respected Vice-President Doctor Breen, in which he followed up the practical statistics of midwifery, as observed by him in the Dublin Lying-in Hospital during his assistantship. I may make the same remark on the treatises of your President Dr. Johnson, whose observations on the Removal of the Uterus, and on Hooping Cough, have rendered him justly celebrated.

The very ingenious and interesting papers of your Vice-President Dr. Douglas, upon Spontaneous Evolution, and the highly practical remarks of your Vice-Presidents Drs. M'Keever and Murphy upon Ruptured Uterus, you are conversant with.

To that extraordinary proof of industry and talent, I need scarcely say I allude to the accumulation of midwifery facts and improvements, recently published by your President Dr. Collins, in his Practical Treatise on Midwifery, which has rendered the obstetrical school of Dublin so justly celebrated and familiar to the profession at home and abroad, I cannot refer without experiencing a sensible pride that it remained for such a work as this to be written, not only by my fellow-countryman but by my friend. There are many other names which I should with justice add, and some whose modesty and retiring character have prevented them from publicly putting forward the results of their ample experience, but whose well stored minds and industry must convince us, that their silence is not attributable to want of material. Need I particularize the names of Darley, Shekleton, Whitestone, Gordon, J. Labatt, and Dwyer, your justly formed estimate of whose character has induced you to select them amongst your Vice-Presidents. I confidently look to our making this association subservient to eliciting the views and observations of such individuals.

The stimulus given to midwifery by the causes mentioned, and the labours of those eminent individuals alluded to, has at length caused it to merit the attention which so important a branch of medicine was entitled to. Was it to be expected that a branch, requiring for its successful practice the combined knowledge of the enlightened and discerning physician, and the judicious and expert surgeon, should long remain esteemed as of second rate importance? Was it because two lives instead of one were constantly dependant upon the accoucheur's judgment and knowledge, that he should be qualified in a degree inferior to the surgeon and physician? was the profession practised by such men as Harvey and Hunter, derogatory? Or

were women and children, the most interesting and helpless class of the community, in the investigation of whose diseases, more especially the latter, a degree of acuteness and judgment, far beyond that necessary in treating the diseases of males, was so essential, should be handed over to the blundering or half informed empiric? No; such a state of things could not be expected to continue, they have of course yielded to the all powerful march of intellect, and now the obstetric department holds the rank it merits.

Nay, not only have the offensive and injurious restrictions alluded to been removed, but an emulation absolutely exists upon the part of the different colleges, to attach the midwifery practitioner to themselves.

Professorships of midwifery have been instituted, and inducements held out to obstetric recruits on all sides, and midwifery has at length been wisely insisted upon as an essential ingredient in the education of both surgeon and physician. In fact, at the present moment, the accoucheur is as much in repute, as formerly he was the reverse. Thus the duty which at one time devolved exclusively upon the Master of the Lying-in Hospital, has been divided by other midwifery teachers. The result of this, I doubt not, after the fever and excitement attending these changes shall have subsided, will be, that midwifery will be permanently fixed in that rank of importance as a profession, which it should long since have held, and to which it is so eminently entitled. In the mean time, the effect upon science will prove serviceable by the mass of talent which competition brings to bear on its investigation. Indeed this fact has been already proved by the many literary productions that have issued from the press within the last few years; witness a work on the "Signs and Symptoms of Pregnancy," containing much information, by Dr. Montgomery, Professor of Midwifery to the College of Physicians; as also a "Systematic Treatise on the Diseases of Children," being a joint production by Professors Evanson and Maunsell, a work much wanted; and a "General Treatise on Diseases of Females," by Dr. Churchill, Lecturer on Midwifery to the Richmond Medico-Chirurgical School; to which may be added, the valuable Reports of the several Lying-in Institutions, as well as many detached and interesting papers on a variety of subjects connected with our art, by Drs. O'B. Adams, Beatty, Cusack, Ireland, and H. Carmichael, &c.

Let us now confidently look to this Society as a means of still further increasing our knowledge by identifying obstetric practitioners and students in midwifery in one common and united effort. If union be strength, then what more than ignorance requires its aid to overcome?

Let it not be supposed that the object of this Society is alone to instruct the student, when it is more especially calculated to unite the practitioners as a body, and to improve the art; neither let it be imagined that it is restricted in its efforts to the exertions of midwifery practitioners solely, our extensive field of practice has been much

enlightened by the labours of such men as Cheyne, Marsh, Graves, and others, individuals occupying high stations in the walks of medical and surgical science, and I am happy to inform you that many such have already not only identified themselves with its objects, but even (as we should expect from their well known zeal in every thing tending to improve and extend the knowledge of our art) have undertaken to assist our infant efforts by furnishing us with papers for our meeting; need I, in making this announcement, enumerate the names of Doctors Graves, Stokes, Lendrick, Harrison, Hart, Smith, Brady, Wilde, and Mollan. In returning my best thanks to my junior friends for the attentive hearing they have afforded to me, and to my senior fellow-labourers for evincing, by their attendance here, that spirit of generous scholarship which delights to encourage in others the studies itself loves, allow me to conclude in the words of St. Bernard, "And now, my, dear friends, you have laid this task upon me, and not only you, but as you have given me to understand, from Ireland, all the society with you. I, therefore, willingly obeyed, and the rather as you did not require an eloquent discourse, but a plain narrative. I have, however, used my endeavours that the account I gave should be smooth, clear, instructive, and devout, and, I trust, not tedious to the over-curious."

Death of Professor Broussais.—In noticing this event, which occurred in November, 1838, we would desire to give an analysis of the character and labours of Broussais, one of the most remarkable physicians of modern times; but this our limits will not permit.

In this country a very limited notion is generally entertained of the doctrine of Broussais, and the term has been almost exclusively confined to that part of it which related to fever; a doctrine, which though erroneous as applied to typhus generally, had strong evidences in its favour, when considered with reference to the disease in Paris. But, in truth, this part of the doctrine which excited such opposition, was but a necessary consequence of, and part of the almost exclusive solidism which characterizes the medical doctrine of Broussais. He sought for a formula for disease. He conceived that health consisted in the balance of function; disease in the disturbance; and death in the cessation: but as function depended on organs, so organic change of some kind accompanied the lesion of function; hence, there *was no essential disease*, no general affection, not springing from a local organic cause, and consequently fever was not essential, but symptomatic. Here was the great error of Broussais; not that he declared that fever was nothing but gastro-enteritis, but that he took as a basis of his pathology a doctrine which was far from being proved.

His next error was in the adoption of the doctrine that he could reduce all diseases to the formula of a plus or minus vitality of organs. The phenomena of altered secretion, increased nutrition, inflammation, and ulceration, being considered as examples of plus vitality, it followed, first, that an antiphlogistic treatment, general and local,

should be adopted in almost every case ; and next, that the same principles of treatment were applicable to a vast number of diseases.

As a further consequence of this doctrine, Broussais held that irritation did not change its nature, and therefore he pursued the antiphlogistic treatment too long, unaware that in many local diseases a period arrives when antiphlogosis, which at first answered well, ceases to control the disease, and that to complete the cure, we must change to a tonic and stimulating remedy. Finally, if diseases only differed in the degree of irritation, there was no need for specifics, the action of which he at first denied.

The doctrinal errors of Broussais may be thus stated. His exclusive solidism ; his doctrine that all diseases could be reduced to the formula of plus or minus local vitality ; his opinion that irritation did not change its nature ; and his denial of specificism.

In the doctrine of plus or minus vitality, Broussais has been accused of merely following Brown. In an early notice of the work of Sabatier on Revulsion, we have observed that Brown used the terms *sthenia* and *asthenia*, as general terms applying to the state of the whole body or system. Disease was with him the result of a general condition. Broussais on the other hand expressly denies this doctrine of Brown's, and holds that all diseases are primitively local, there being no such thing as a general exaltation, or general diminution of the vitality of organs.

With respect to the theory of typhous fever, it seems certain, that the error was first in announcing as a general proposition, what was true but in a certain locality ; and next, in a misapprehension of the nature of the lesion of the intestines. It is almost certain, that the follicular disease is the effect of the fever ; a local affection, secondary, though peculiar to the general disturbance. Yet in his announcement of the constancy of the lesion in Paris, Broussais has been borne out by almost every subsequent observer. But disease must be studied in various countries before we can establish any great law in pathology ; and every dispassionate man must admit the essentiality of typhus in Great Britain and Ireland.

The great glory of Broussais consists in the enormous number of practical observations with which he has enriched every department of medicine.

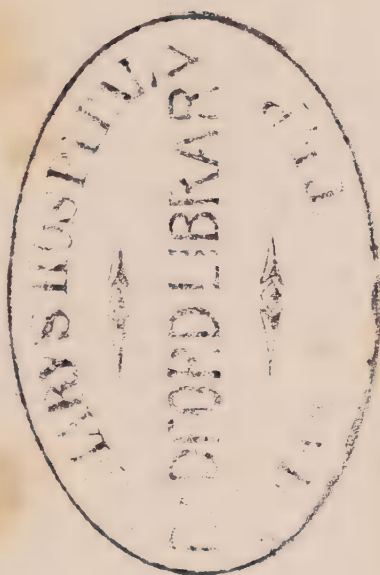




Fig. 3.



Fig. 1.



Fig. 2.



Fig. 5.



Fig. 4.

Plate 1.

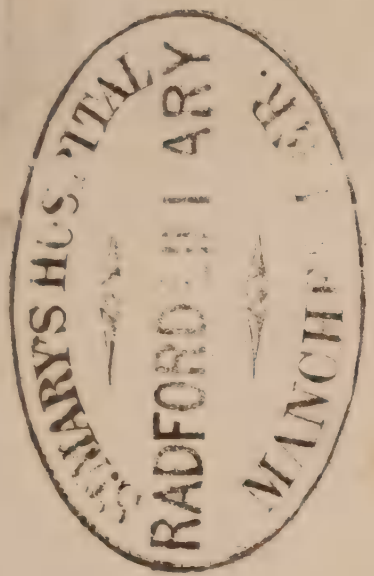


Fig. 3.

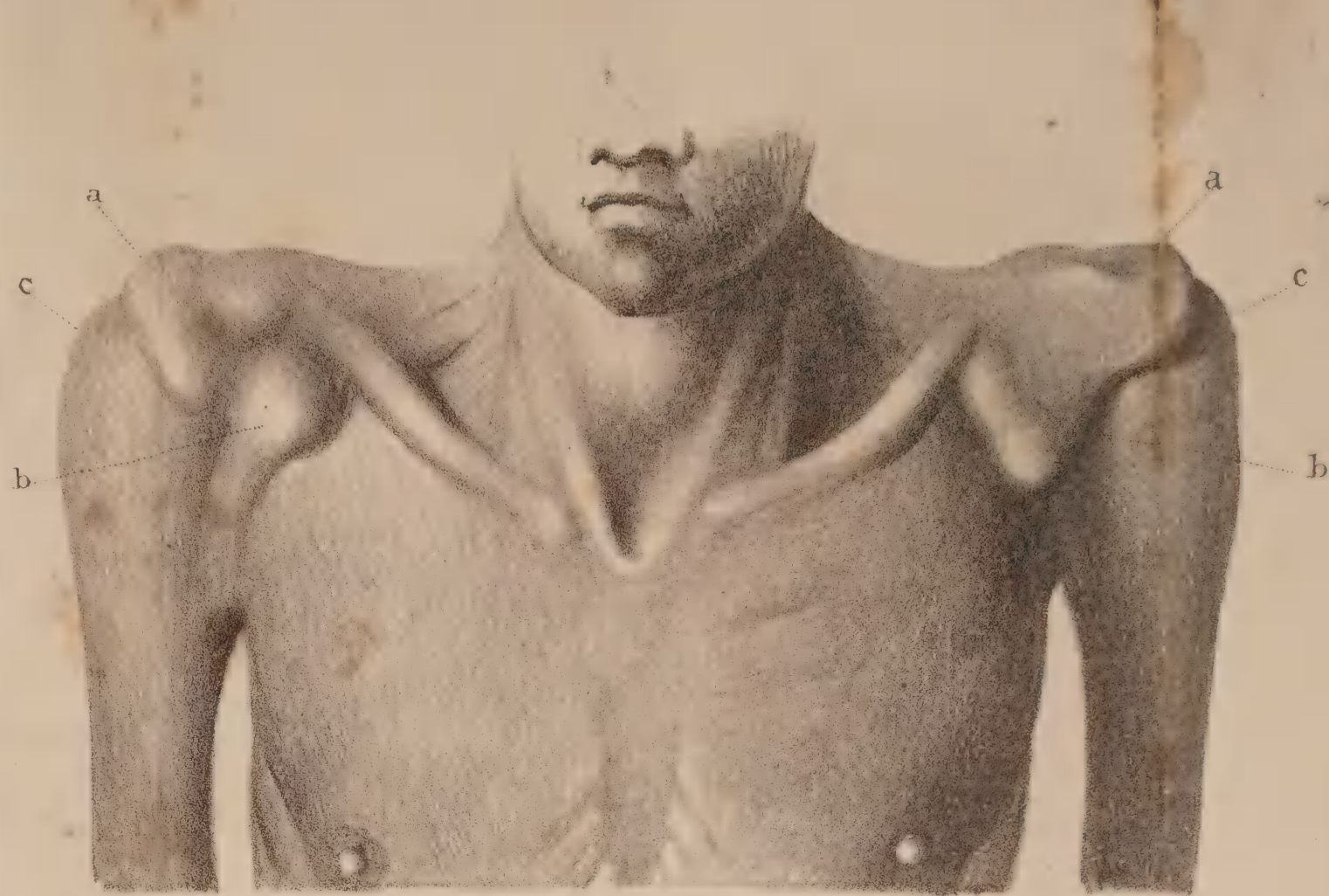


Fig. 1.



Fig. 2.

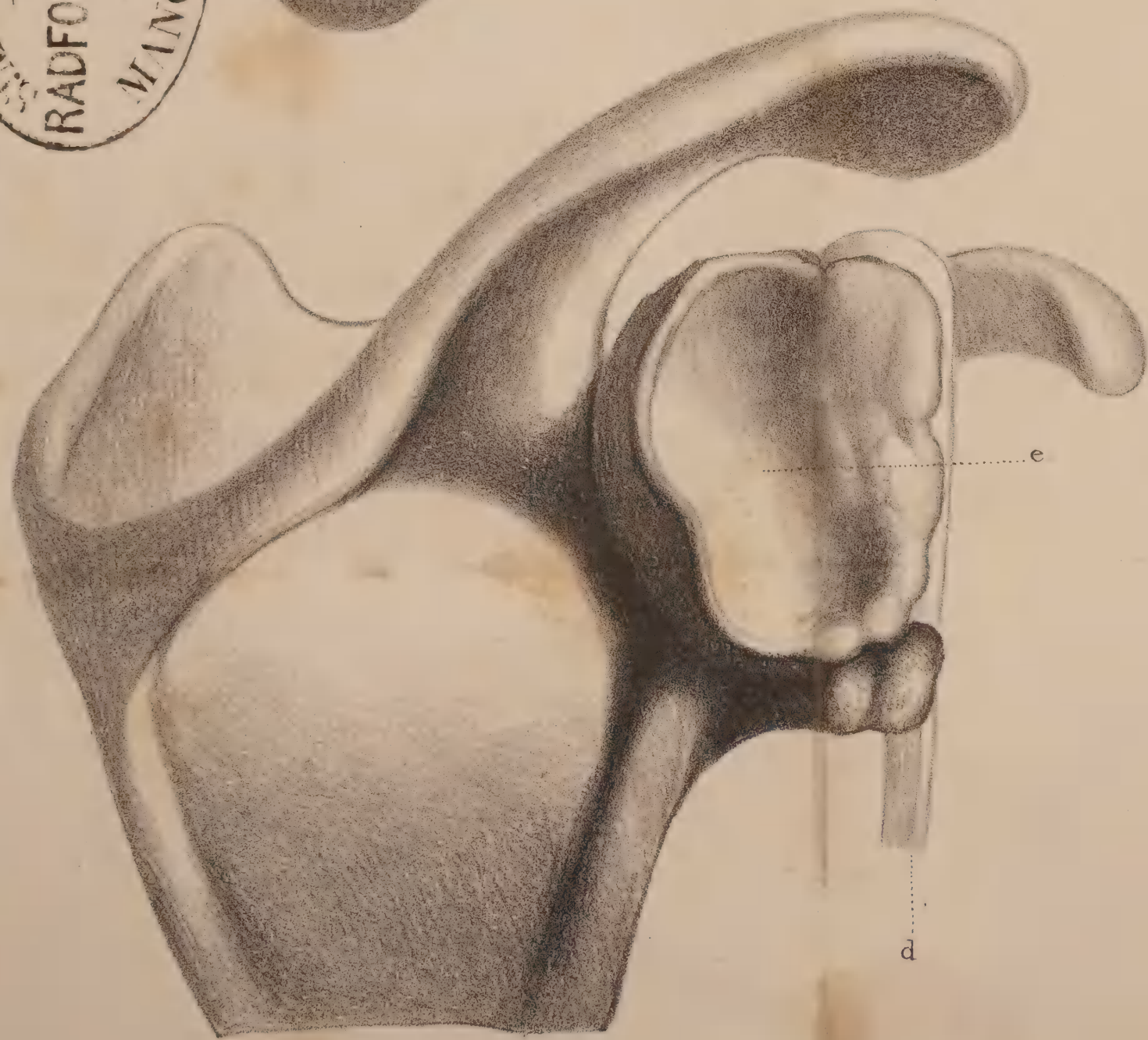


Fig. 5.

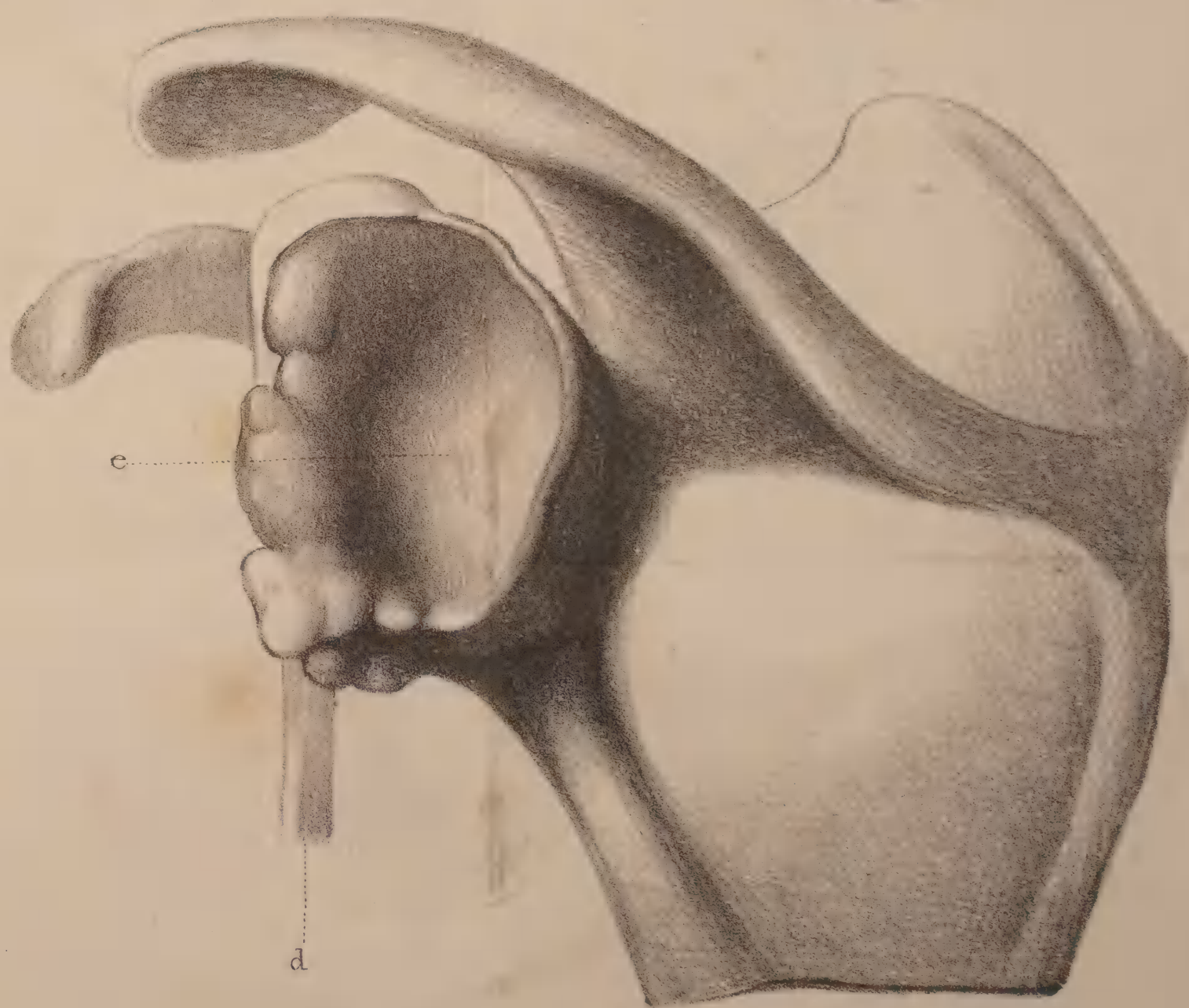


Fig. 4.

THE
DUBLIN JOURNAL
OF
MEDICAL SCIENCE,

1 MAY, 1839.

PART I.
ORIGINAL COMMUNICATIONS.

ART. IV.—*The Third Medical Report of the Western Lying-in Hospital and Dispensary, 31, Arran-quay.* By FLEETWOOD CHURCHILL, M.D., Physician to the Hospital, and Lecturer on Midwifery, &c.

[Read before the Dublin Obstetrical Society, March 7, 1839.]

MR. PRESIDENT,

I must beg your indulgence for a degree of imperfection in the Report I have the honour to present to you, arising partly from the difficulty of obtaining minute and correct information from extern patients; and partly from my own ill health, which has prevented that careful superintendence which is necessary to secure accuracy of detail. Under these circumstances, I have preferred omitting such cases as have been doubtfully or imperfectly reported, and giving the statistics of those only, about which there is definite information in the hospital case books.

I do not know that I can do better than to adopt the plan of my former Reports; giving the statistical details first, and afterwards the more interesting cases with comments.

During the past year, from January 1st, 1838, to December 31st, 1838, inclusive, 374 women have been delivered, of whom 92 were intern, and 282 extern patients, being a slight increase over former years.*

From this number we must deduct 10 cases of abortion, leaving 364 cases of labour at the full term of utero-gestation.

The number of children born amounted to 373; of which, I believe, 200 were males, and 173 females. Twenty-one children were still born, or died immediately after birth. Of these

- 3 were breech presentations.
- 1 footling.
- 1 head and hand.
- 3 crotchet cases.
- 3 constituted the case of triplets.

The ages of 209 women only were ascertained.

14	were under 20 years.
42	between 20 and 25 years
87	„ 25 „ 30
35	„ 30 „ 35
25	„ 35 „ 40
6	„ 45 „ 50

209

In 218 cases the entire duration of labour was as follows :

In 68 cases it was under 6 hours.

63	„ „	12
48	„ „	24
32	„ „	36
4	„ „	48
3	„ „	60

* A greater number of patients are enumerated in the second Report, but that is because it includes a period of fourteen months instead of twelve.

I may here quote an observation from my last Report, viz. "that the responsibility (if any there be) for the length of the entire labour, as well as of the different stages, in almost every tedious case, rested with the patient or her friends, and not with the medical attendant."

The period from the commencement of labour to the rupture of the membranes, was noted with tolerable accuracy in 217 cases.

In 32 cases it was under 2 hours.

54	„	about	6
37	„	„	10
29	„	„	14
20	„	„	18
19	„	„	24
10	„	„	30
10	„	„	36
3	„	„	48
3	„	„	50
<hr/>			
217			

The interval between the rupture of the membranes and the birth of the child was as follows in 212 cases :

In 145 cases it was under 1 hour.

27	„	about	2
14	„	„	4
14	„	„	6
4	„	„	8
2	„	„	10
4	„	„	20
2	„	„	40
<hr/>			
212			

From the birth of the child until the expulsion of the placenta there elapsed,

5 minutes in 107 cases.
10 „ 93
15 „ 34
20 „ 14
30 „ 11
45 „ 3
60 „ 4
From . 1 to 2 hours in 8
2 „ 3 „ 4

In 384 cases the presentation was as follows :

In 287 the head presented.

8 the breech.

3 the feet.

2 the arm.

4 the hand descended with the head.

In three of the breech, one of the footling, and one of the arm cases, the children were unfortunately lost.

There occurred seven twin cases, and one of triplets. The sexes and presentations of six of the twins were as follows :

NO.	SEXES.	PRESENTATION.	RESULTS.
1	2 Males, . . .	1st Head, 2nd Head & Arm,	Both saved.
2	1 Male, 1 Female,	1st Head, 2nd Feet, . .	„ „
3	2 Males, . . .	1st Head, 2nd Head, . .	„ „
4	1 Male, 1 Female,	1st Breech, 2nd Head, .	One saved.
5	2 Males, . . .	1st Head, 2nd Arm, . .	„ „
6	2 Females, . .	1st Head, 2nd Breech, .	„ „

We met with three cases of *flooding* after labour, requiring the removal of the placenta ; which operation was also performed in five other cases, on account of the time which had elapsed after the conclusion of the labour.

One patient was attacked with *puerperal convulsions* before labour, but was relieved by the timely adoption of anti-phlogistic treatment.

Two cases of *puerperal fever* occurred in the hospital at an interval of some months ; notwithstanding early and active measures, I regret to say, both proved fatal.

In two cases, (1 in 182,) the operation of *turning* was performed ; in both the children were lost, but the mothers did well.

An attempt was made in two or three cases to use the *forceps*, but it was found impossible to terminate the labour by their aid.

In three cases, (1 in 121,) we were obliged to perforate the head of the child, either on account of the narrowness of the pelvis, or because the head had advanced so low when the unfavourable symptoms supervened, that the forceps could not be applied.

Of the entire number of females two died, or 1 in 187.

To these statistics I may add the following tables of labours of a certain length, showing the duration of each stage, and the results to mother and child.

TABLE I.—*Thirteen Cases of Labour between thirty and forty Hours' Duration.*

Cases.	Length of active Labour.	Length of First Stage.	Length of Second Stage.	Results to	
				Mother.	Child.
In 2 cases,	31 hours, {	24 hours.	7 hours.	Favourable.	Favourable.
		29 "	2 "	"	"
		30 "	2 "	"	"
In 4 "	32 " {	31 "	1 "	"	"
		31 "	1 "	"	"
		31 "	1 "	"	"
In 1 "	33 "	32 "	1 "	"	"
		33 "	1 "	"	"
In 2 "	34 " {	29 "	5 "	"	"
		33 "	3 "	"	"
In 3 "	36 " {	35 "	1 "	"	"
		31 "	5 "	"	"
In 1 "	38 "	37 "	1 "	"	"

TABLE II.—*Four Cases from forty to forty-eight Hours.*

No. of Cases.	Length of entire Labour.	Length of First Stage.	Length of Second Stage.	Results to	
				Mother.	Child.
In 1	40 Hours.	1 Hour.	39 Hours.	Favourable.	Favourable.
„ 1	45 „	44 „	1 „	„	„
„ 2	48 „	47 „	1 „	„	„
		44 „	4 „	„	„

TABLE III.—*Two Cases of sixty Hours.*

No. of Cases.	Length of entire Labour.	Length of First Stage.	Length of Second Stage.	Results to	
				Mother.	Child.
In 2	60 Hours.	57 Hours.	3 Hours.	Favourable.	Favourable.
		59 „	1 „	„	„

TABLE IV.—*One Case beyond sixty Hours.*

No. of Cases.	Length of entire Labour.	Length of First Stage.	Length of Second Stage.	Results to	
				Mother.	Child.
In 1	66 Hours.	62 Hours.	4 Hours.	Favourable.	Favourable.

I do not intend to detain the Society by any remarks upon the very interesting controversy to which the foregoing tables have reference. I should doubt my ability to place the question in a clearer light than has already been done, I shall therefore content myself by carefully observing, and accurately registering such facts as may bear upon the point at issue.

I now proceed, Sir, to give a somewhat more detailed account of a few cases from the hospital case book.

The cases of *version* presented few peculiarities. One of the patients was paralytic and deaf and dumb. I had no difficulty in delivering her, and she recovered well.

The three crotchet cases are reported as follows.

CASE I.—Mary Byrne, æt. 25, unmarried, in good health, was admitted into the hospital on Sunday evening, June 24, at

nine P. M. in labour of her first child. The pains had commenced on the previous Friday, and had increased during Saturday and Sunday. On her admission into the hospital, they were frequent, violent, and expulsive. The head of the child occupied the cavity of the pelvis, but was not sensibly advanced by the pains. She was carefully watched for four or five hours, but no progress was made; on the contrary, her pulse became frequent, (from 110 to 120,) her intellect disturbed, skin hot, &c. &c. A consultation was held, and at two A. M. June, 25, it was resolved to deliver her by art. The urine was evacuated, and an attempt was made by Mr. Speedy to extract with the forceps, but the force which we felt justified in employing proving ineffectual, craniotomy was performed. The operation was easily completed, and a dose of opium administered. The next day the patient appeared as well as we could expect, and she continued to mend up to the close of the fifth day. On the sixth day, (July 1,) however, she complained of pain in the abdomen, the skin became hot and dry, pulse 120, and the countenance anxious. Twelve ounces of blood were taken from the arm, and two grains of calomel, with a quarter of a grain of opium, were given every three hours. The abdomen was well fomented. This treatment afforded some relief, but on July 3rd the symptoms recurred, with the addition of delirium. The head was shaved and blistered, and the medicine continued, but with no good effect. Vomiting of green bile occurred on the 5th with great prostration of strength. and on the evening of July 6th she expired. We obtained permission to examine the abdomen, and we found evidences of universal and most intense peritonitis. In every part lymph was deposited, the intestines were glued together, and the serous membrane underneath the lymph was very vascular in many parts. The substance and lining membrane of the womb were perfectly free from disease. We could not discover any special cause for the attack, but the distressed state of the patient's mind would undoubtedly predispose her to disease.

She had been the victim of a promise of marriage and desertion.

CASE II.—Anne Murtagh, æt. 28, of a healthy habit, was taken in labour August 28, of her second child, at an interval of five years from the birth of her first. The pains continued for two days, and on the 31st the head was found partially filling the cavity of the pelvis, but unaffected by the pains. The os uteri was dilated, and the external parts soft. No advance having taken place after waiting some hours, and the pulse becoming very frequent, (120,) and the patient restless and feverish, it was deemed advisable to call in Dr. Darley to consultation. After mature investigation, it was found necessary to assist the natural efforts. It was impossible to introduce the blades of the forceps, and we consequently proceeded to perforate the head. We were astonished to see, instead of brain, a very large quantity of water escape; an explanation was afforded however, when the extraction was completed, as we then found that the foetus was hydrocephalic, the head being about twice the usual size. The woman recovered without a bad symptom.

CASE III.—Mrs. Howard, æt. 24, wife of a private in the Queen's Bays, was taken in labour, August 27. She sent for a midwife, from whom we learned that the waters had been early discharged, and the pains frequent and strong.

She was visited from the hospital on the 28th, and the head was found descending into the pelvis, the pains strong and frequent, and her general state favourable. Labour continued the whole of the 29th, but towards evening the patient became much exhausted, the pulse quickened, the skin hot, and the passage dry. Notwithstanding the frequent and strong pains, no advance had been made for eight or ten hours, and therefore at seven P. M. with the advice of Dr. Darley, it was decided to deliver her. The forceps was tried, but ineffectually, as the pelvis was narrow and the head impacted. Craniotomy was

then performed by Mr. Speedy, and the patient recovered well.

I shall now relate the history of the fatal case of puerperal, which was unconnected with any difficulty in parturition.

Anne Wilde, æt. 31, was safely delivered of a living child, November 7th, after a natural labour. The child died afterwards of convulsions. On the third day she complained of severe rigors, headach, acute pain in the region of the uterus, cessation of the lochial discharge, vomiting, great heat of skin, thirst, and sleeplessness. Her pulse was 120 and full; tongue white and furred. The rapidity with which these symptoms set in is very remarkable; Mr. Speedy visited her in the evening of the 2nd, and she was quite free from complaint, and yet the above mentioned symptoms were all developed on the morning of the third. She was bled to the amount of sixteen ounces, ordered two grains of calomel, and quarter of a grain of opium every third hour, an enema with turpentine and assafoetida immediately, and fomentations to the abdomen every four hours. After this she experienced some relief for a time, and on the pain returning the next day, she was again bled to twelve ounces with benefit. By Dr. Darley's advice, twelve leeches were also applied to the abdomen, and the calomel and opium continued.

11th. The symptoms were somewhat mitigated, but the vomiting was troublesome, the pills, however were retained; pulse 120. Ordered to apply a large blister to the abdomen, and to continue the pills.

12th. She appeared to have been relieved by the blister, the stomach retained some tea; pulse 100. The pills and turpentine enema were repeated.

This improvement in her state continued till November 14, when the acute pain in the abdomen, from which she at first suffered, returned with great severity, and in her exhausted condition, caused great distress. She was too weak for general bloodletting, but a dozen leeches were applied to the abdomen

without much benefit. The calomel which had been continued up to this time, had not affected the gums, and none of the remedies which were tried produced more than a temporary relief. She continued to get worse in spite of most careful attention, the pain in the abdomen continued severe, the head became involved, and after a week's more suffering, she died.

Post Mortem Examination.—A large quantity of whey-coloured fluid, mixed with flakes of lymph, filled the peritoneal sac, and a layer of lymph covered the intestines. The peritoneum covering the uterus was highly inflamed. The substance of the uterus exhibited marks of inflammation, and its internal surface had a gangrenous appearance at several points.

I shall conclude by mentioning, that since the establishment of the Hospital, 1012 women have been attended, of whom six have died, or rather less than 1 in 168. There have been eight cases of turning, or 1 in 121; and seven crotchet cases, or 1 in 138.

104, STEPHEN'S-GREEN.

ART. V.—*On the injurious Effects of the Pharmaceutical Treatment of Digitalis Purpurea in forming its Tincture; with a Proposal for a more efficacious Formula.* By M. DONOVAN, Esq.

THE singular control which digitalis purpurea is capable of exercising over the circulatory system has raised it to a high rank amongst therapeutic agents.

Its effects, however, are not always equally energetic, for we frequently find it to disappoint the practitioner; and hence very different opinions have been entertained concerning its powers.

Such disappointments have rendered it an object with chemists to discover and isolate the active ingredient in this plant, to ascertain its properties, and to determine the means of producing from it preparations of unvarying medicinal efficacy. With this view, the Society of Pharmacy of Paris, in 1835,

offered a prize of 500 francs for the best answer to the question, “does there exist in digitalis purpurea, one or more proximate principles, to which the medical properties of this plant may be attributed?” Notwithstanding the labour bestowed on the investigation at different times by several eminent persons, the subject is still involved in obscurity. In the absence of precise knowledge of the active principle of digitalis, it will be of use to point out some errors in the pharmaceutic management of the plant, which, I conceive, give origin to many of the disappointments above alluded to; to offer some suggestions as to the mode of prevention; and to introduce such improvements as have been suggested to me by the labours of those chemists that have investigated the constitution of this important medicine.

It is well known to all medical readers, that about fifteen years since, the existence of an alkali in this plant was announced by M. Leroyer of Geneva, to which he referred its poisonous qualities. By a process not necessary here to describe, he separated from foxglove leaves a bitter deliquescent matter, which slowly restored the blue colour of reddened litmus paper, and which Prévost found to be capable of assuming the form of minute crystals. To this substance the name of *digitaline* has been given. It possesses the properties of an active poison: a grain of it introduced into the abdomen of a rabbit, in a few minutes began to retard the respiration and circulation; at length the animal, apparently falling into a tranquil sleep, died. A solution of half a grain being injected into the circulation of a cat, the same symptoms supervened, and death ensued in fifteen minutes. A grain and a half introduced into the circulation of a dog, killed him in fifty minutes.

Thus this substance undoubtedly *contains* the active principle; but it has been proved that digitaline is neither a proximate principle, nor of an alkaline nature, as will appear by comparing the experiments of Leroyer, Planiava, Dulong of Astafort, Haase, Planizza, Pauguy, Welding, Brault, and Poggiale.

Dr. Graves, of Dublin, was the first who called in question the alkaline nature of digitaline, in a paper which he placed in my hands a few months after Leroyer's announcement; and he showed that when certain precautions are taken, this substance does not manifest any alkaline reaction.

M. Dulong of Astafort, made an examination of foxglove leaves in 1827, which convinced him that they do not contain a peculiar alkali. He arrived at the following conclusions:

1. Digitalis contains a bitter matter, which possesses peculiar properties, and which ought to be regarded as the active principle of the plant.

2. This matter does not present the characters of vegetable salifiable bases.

3. Digitalis does not contain a base analogous to strychnine, although the fact has been asserted in Sweden.

M. Dulong concludes with an important fact, which, however, has attracted but little attention. He found that this bitter active principle of digitalis, forms with infusion of galls an insoluble precipitate. Hence he concludes that watery infusion of nutgalls will act as an antidote to the poison of digitalis, especially if used in conjunction with the means already known.*

In 1835, the result of the experiments of MM. Brault and Poggiale was published by these chemists. The following is the substance of their memoir:

We have often (say they) repeated all the processes to prepare this pretended digitaline, and have never yet been able to procure it. The process of M. Pauguy consists in boiling digitalis in distilled water sharpened with sulphuric acid, treating the decoction with calcined magnesia, and the dried precipitate with alcohol. The latter solution when distilled will deposit a white crystalline substance in small needles. Without fear of falsehood we affirm that this process furnishes *no product whatever*.

We have repeated the process of M. Leroyer different times, and, like that chemist, we have always obtained a heavy brown substance possessing an extremely acrid, bitter taste. This is the digitaline of M. Leroyer. Our examination has proved that this is an extract composed of a great quantity of chlorophylle, much resin, a fatty matter, and different salts of lime and potash.

M. Leroyer relates, that M. Prévost has seen crystals of digitaline by the aid of the microscope. We affirm, on the contrary, that these are salts of lime and potash which the digitalis contains.

After these reflections we have nothing to add on the labours of M. Planiava. His digitaline is nothing but an extract composed nearly of the same principles as that procured by the process of M. Leroyer.

It results from the preceding facts, that the pretended digitaline has never been obtained; that the digitaline of M. Leroyer is composed of chlorophylle, resin, a fatty matter, and some salts of lime and potash: and that the process of M. Pauguy furnishes absolutely no substance at all.

We may be permitted to believe that digitalis leaves are composed of chlorophylle, resin, fatty matter, amidon, vegetable fibre, gum, tannin, salts of lime and potash, volatile oil, and oxalate of potash.

We believe, (they continue,) that the purgative and diuretic effects of foxglove are attributable not to a peculiar principle, but to the union of all the substances which compose it, and especially to the resin. This resin has a bitter taste, is acrid, and almost corrosive. If one places on his tongue a very small portion of it, he experiences a very painful sensation of heat, and constriction in the throat. Two grains of this resin swallowed, powerfully irritate the stomach. It is very soluble in warm alcohol; it is soluble in ether and volatile oils; insoluble in water, but soluble in water sharpened with any acid.

In conclusion, MM. Brault and Poggiale observe, that the

fecula deposited by foxglove juice, has been very much employed in medicine, because the resin it contains communicates to it the properties of *digitalis*.*

At a meeting of the Society of Pharmacy, February, 1835, M. Pelletier stated that he had observed and confirmed the most important facts in the foregoing memoir.

From all these investigations it is plain, that in *digitalis* a principle or combination of principles exists, which in minute quantity is capable of producing the deadly effects of this medicine. Leroyer says it is an alkali ; Dulong says that it is a bitter principle of a reddish-yellow colour, and of an excessively bitter taste ; that it softens by heat, and draws into threads like resin, becoming dry and brittle when cold : that it is slightly deliquescent in the air ; and that it is soluble in water and alcohol, although insoluble in sulphuric ether. Brault and Poggiale conceive that the purgative and diuretic effects depend chiefly on a resin, but also on the united agency of all the other principles. Haase also supposes the resin to be the active ingredient.

In the present state of our knowledge of this subject, it is not in our power to determine which of these views is the correct one ; and hence in the modes of conservation and extraction which we employ, it is prudent to have regard, if possible, to all of them, and not to rely upon any one of them in particular. Thus, were we to admit of the statement of Dulong, that the active principle of foxglove is insoluble in ether, we must conclude that the choice of ether as a menstruum is improper, that the tincture formed by it is powerless, and that the active principle is excluded. Yet the French Codex of 1816, as well as that of 1835, directed the ethereal tincture of *digitalis* : so also the Pharmacopœia Belgica, the Pharmacopœia Hannoverana, the Pharmacopœia Regni Poloniæ, (1817,) the Pharmacopœia Borussica, and the Pharmacopœia Saxonica ; it is also sanctioned

* Journal de Pharmacie, XXI. p. 130.

in the Pharmacopœia of Brugnatelli, in that of Cadet de Gassicourt, and of Van Mons. But if we rely on the affirmation of Brault and Poggiale, that the active principle is soluble in sulphuric ether, the foregoing authorities have given adequate formulæ. Again, if the active principle is insoluble in water, as asserted by Brault and Poggiale, though contradicted by Dulong, the decoction and infusion of digitalis of the American and European Pharmacopœias are worthless ; and the tinctura digitalis aquoso-ætherea, added by Niemann to the Dutch Pharmacopœia, and also introduced into the Pharm. Man. Anvers, 1812, is doubly absurd, as it employs both water and ether.

In place, therefore, of relying on this or that authority, when they differ so widely, as to the principle on which the medicinal powers depend, the more prudent course will be to use such process of extraction only as will deprive the subject of the greatest number of its principles, care being taken that none of them shall be excluded unless such as are manifestly inert.

In the following observations I shall confine myself to the consideration of the tinctures of digitalis at present in use, reserving other preparations for some future communication.

The alcoholic tinctures of the pharmacopœial processes vary in the strength of the alcohol. In the British isles, however, that made use of is proof spirit. Let us therefore inquire, how far this menstruum is effectual, and whether the previous treatment of the plant occasions important changes in its powers.

The first step towards forming the tincture is to dry the leaves, and this process is differently directed by the colleges. We have no experiments on record of the results of various methods of drying, we are therefore left to draw our conclusions from analogy.

We know that in the case of *some* active medicines, drying, especially by heat, effects considerable changes. White briony, a highly acrid and poisonous substance when recent, becomes comparatively mild by drying : and I have found that its chemical constitution is so far altered, that although an infusion of

the fresh root affords a precipitate with tincture of galls, the infusion of the root dried, even without heat, does not.

The recent root of *arum maculatum*, if chewed, will blister the mouth; and if rubbed on the hands will excoriate them: yet when dried, it is not only innoxious, but is used as an article of food.

The bitter Cassava root, “when raw, is a most fatal poison to man and beast; but prepared by fire (baking) it is very safe, and the natural bread of the Indians and several Europeans.”*

Garlic is highly acrimonious; by drying it loses this quality; the same observation applies nearly to the whole onion tribe. The acrid seeds of the *Palma Christi* become mild by drying. Mezereon bark, if applied to the skin while recent, raises a blister: but by drying, it loses this quality.

Many other instances might be adduced: it is true that they *prove* nothing in the case of *digitalis*, and they may be opposed by the known efficacy of *digitalis* powder when well preserved. But do they not render it highly probable, that were it not for the injurious effects of drying, this plant might be much more active, much less liable to disappoint the practitioner than it is well known to be; and perhaps universal in its control over all constitutions.

Several more direct evidences may be adduced in support of the opinion, that the powers of the growing plant are different from those of the dried leaves. When first taken from the ground, the leaves are strong, erect, and vigorous; in a short time, an hour is sufficient, they become collapsed and limber, lose their firmness, grow flaccid and droop.

This is the first symptom of change. If an adequate heat be now applied, the smell of the plant is extensively diffused throughout the apartment, which proves the dissipation and loss of some ingredient of the leaves, probably the volatile oil. The

* Stedman's Narrative, i. 382.

brilliant green colour on the surface is also changed for a dusky olive. It is not easy to conceive, that such striking changes in the physical constitution of the plant can take place without some modification of medicinal power.

But if to these sources of change we add, that arising from the very bad mode of drying which the pharmacopœias inculcate, it can scarcely be considered doubtful, that much injury is sustained. The Dublin Pharmacopœia directs the herb to be enclosed in paper bags, exposed to 90° or 100° for an hour, and then dried on a wire-gauze. The London Pharmacopœia orders leaves to be lightly strewed, and hastily dried by a gentle heat. The Edinburgh Pharmacopœia merely desires, that such small quantities as can be hastily dried, shall be exposed to the moderate heat of a fire hearth; and adds the following test, “sic enim eorum vires optime servantur, cujus indicium est color nativus quam perfectissime constans.”

This preservation of the green colour is universally admitted as the test of good drying; and when the green colour is destroyed, it is conceived that the medicinal efficacy of the subject is not to be relied on. It is a convenient test; for without it we should in every case have recourse for proof to the actual exhibition of the medicine.

Now by the process of the Dublin Pharmacopœia the colour is exceedingly impaired. There can be nothing more detrimental to it than the heating for an hour, in a bag at the temperature of 90° or 100°. I have over and over convinced myself, by processes much varied, that to allow the steam of the leaves to act on them for so long a time, or at all, is injurious to colour. I have dried these leaves sometimes in paper bags before the fire, sometimes stratified on large sheets of paper before the fire, or in the sun, or air, sometimes in a baker's oven, sometimes stratified on a wire-gauze over a sand-bath, or on a floor in the shade, and have sometimes hung them in bundles in a room, in which burned a fire; yet in no case did I ever, by these processes, preserve the brilliant green in the leaves, which

it is their nature to retain under a different management. Yet these are all the methods directed in the pharmacopœias, and practised by herb-dealers, druggists, and apothecaries. For proof of the injury done by these methods of drying, I refer to the powder of foxglove, procurable in commerce, the colour of which is far inferior to that which it is possible to obtain by adopting the process, which in some future communication I may describe.

It appears, therefore, that every step, from the collection to the drying, occasions deterioration. The softening of the substance of the plant when pulled, the expulsion of the volatile oil, or other odorous substance during the drying, and the change of colour owing to bad methods of exsiccation, are the sensible evidences of deterioration, and they are strengthened by the analogies which have been adduced. If to these injuries we add, that arising from the long delay, generally a week, nay often a fortnight, from the first collection to the final drying, there can be little doubt, that the plant sustains a great deal of injury.

The following observations of a competent judge correspond with the opinions here entertained :—“ *comme par le dessiccation, certaines plantes perdent une partie de leurs principes les plus volatils, ou subissent des modifications dans leur nature intime, il est certain que leur action médicale ne doit pas être la même qu'avant leur dessiccation. On doit en conclure qu'il est des teintures qui ne jouissent pas toujours des propriétés primitives des substances dont elles sont composées. Ce fait est d'autant plus à considérer, que depuis que la dessiccation des plantes a été en grande partie confiée à des personnes étrangères à la pharmacie, ces substances sont livrées au commerce dans un état de deterioration véritablement pénible à constater.*”*

If two tinctures be made, one with proof and the other with

* Bulletin des travaux de la Société de Pharmacie de Paris, Octobre, 1830.

rectified spirit, on equal quantities of the same coarse powder of foxglove ; the former will, after equal digestion, be brown, and the latter a brilliant green : the taste of both will be exceedingly bitter. If the residue of both be filtered off, and an equal quantity of rectified spirit be digested on each, the residuum of that on which proof spirit had been previously digested will afford a brilliant green tincture, and the other a tincture of pale hue. Thus the green matter of the leaf is but little soluble in proof spirit, although largely soluble in rectified spirit. We do not know whether this is merely chromulite, or whether it is this substance, combined with the active principles, if there be more than one ; and hence, in this state of uncertainty, it is prudent to retain the green matter. The resin, which is supposed by some to be the medicinal agent, the essential oil, the fixed oil, the fatty substance, and the bitter principle, are all soluble in rectified spirit ; but we are not so certain that they are equally soluble in proof.

This point settled, the plan which I propose is easily executed : it requires no skill, and can scarcely fail, if common care be taken. It consists in plucking the proper leaves off the living plant on the spot where it grows, instantly throwing them into the strongest alcohol, digesting for six weeks, pressing out the tincture, and filtering it. Here all the sources of deterioration are obviated, and we preserve the virtues of the recent plant unimpaired.

The ratio of the recent plant to the rectified spirit may be so contrived that the resulting tincture shall correspond with the ratio of the dried plant to the proof spirit as indicated in the Dublin Pharmacopœia.

I found from a mean of four trials that 100 grains of digitalis leaves, of a moderate size, gathered in dry weather, and immediately dried in a well-regulated fire-heat, lost seventy-nine grains of water. The same experiments made on small leaves

proved a loss of eighty-three grains for every hundred. Thus the mean loss of leaves of a moderate and small size is eighty-one grains on every hundred; and the numerical strength of the dried leaves is to that of the recent as five one-quarter to one. Hence ten ounces and a-half, Troy, of the recent leaves, would be equivalent to two ounces dried; and there would remain eight ounces and a-half by weight, that is 8.94 ounces, by measure, of water. If to this quantity of water contained in the recent plant we add 8.74 ounces of alcohol (0.814,) we shall have seventeen ounces and a half by measure of proof spirit, allowing for condensation, (instead of the sixteen ounces indicated in the pharmacopœia for two ounces of dried foxglove,) which is one ounce and a half too much. But if ninety grains of powder of foxglove be added, the whole will be of the pharmacopœial strength, so far as ratio of the ingredients is concerned. But the quantity of liquid being inadequate to cover the leaves, the bottle containing the ingredients should be digested for a month, one day standing on its bottom and the next inverted on its top.

The resulting tincture will be of an olive-brown colour, because the red colouring matter, observed by Welding, will only be dissolved, and the chromulite will not. This must happen while we adhere to the ratio of the colleges. But we can obtain a brilliant green tincture by regulating the ratio so that the menstruum will be reduced to the strength of rectified spirit (0.840).

In order to do this, let ten ounces and a half, Troy, of leaves be pulled from the growing plant, and plunged into a bottle containing two pints and three-quarters (wine-gallon measure) of alcohol 0.815. The strength of the alcohol will be reduced by the water to the strength of rectified spirit (0.840), and after the proper digestion, a brilliant green tincture will result, as perfect as it is possible to procure it. The strength of this tincture, compared with that produced by the

process of the Dublin Pharmacopœia, will be, so far as ratio is concerned, as one to three, and hence it might be given in three times the quantity for a dose. But as there is every reason to believe that its strength is incommensurate with this ratio, it might be prudent to begin with the same doses as have been always employed.

In this case the leaves will be covered by the alcohol ; but a month's digestion in a warm place will be required, with frequent agitation.

The defects of the tincture of digitalis, made according to the British Pharmacopœias, have been fully appreciated in other countries, and we find that efforts have been made to remedy them. The ethereal tincture of the Codex Français, (both 1816 and 1834,) as well as of some other continental pharmacopœias, is, perhaps, intended to obviate the inefficiency of the British formulæ, but the solvent power of ether on the active ingredient is rendered very doubtful by the contradictory statements which have been made on this subject.

The Dresden Pharmacopœia contains a formula, the object of which seems to be the attainment of the same advantages as are contemplated by mine. The recently expressed juice of foxglove is to be mixed with an equal weight of spirit of wine, and the mixture filtered. But the foregoing pages contain my reasons for believing it doubtful that the juice possesses all the qualities of the leaves, and that if it did, the feeble alcohol employed would not be competent to hold them dissolved. A formula for the preparation of tinctures of this kind has been given in the Bulletin des Travaux de la Société de Pharmacie for 1830.

In conclusion, I am compelled to believe, that our tincture of digitalis is far from being the best preparation of which the plant is susceptible : and I suggest to practitioners a trial of the process given in this communication. This trial should not be made by apothecaries in compounding prescriptions of physicians or surgeons : they are bound to the pharmacopœial pro-

cess, and it would be great impropriety in them to substitute any preparation of a more active nature than is there indicated, unless with the full knowledge and approbation of the prescriber.

11, CLARE-STREET, DUBLIN.

ART. VI.—*Observations on the Purulent Ophthalmia of New-born Infants ; on the Cause of the Disease ; its Progress in the Eye ; and Manner the Destruction of the Organ is sometimes effected by it ; as also of its Treatment.* By HUGH CARMICHAEL, A. M., Member of the Royal College of Surgeons in Ireland, one of the Surgeons of the Coombe Lying-in Hospital, and formerly of the Dublin Eye Infirmary.

THE eyes of children, a short time after birth, are liable to become the subject of an ophthalmia, which, if it do not subside of itself or yield to the intervention of art, terminates in the destruction of vision, attended generally with considerable deformity.

A profuse discharge of purulent matter being the most prominent feature of the disease, it has thence, coupled with the period of life at which it occurs, obtained the name of purulent ophthalmia of new-born infants. The correctness of this term has, however, been questioned by writers, the principal source of the danger (the inflammation) being thereby overlooked while the attention is directed to a symptom comparatively of but little importance, (the discharge,) and whose presence is productive of inconvenience rather than any thing very injurious to the eye.

The disease, however induced, is, after its formation, to be regarded as of an inflammatory description. The cause of its occasional unfortunate termination is also the result of inflammation and its consequences on the cornea, which, as I shall endeavour in the sequel to shew, is not only liable to be more easily in-

vaded by it at these periods of life, but when so is likewise less capable of resisting its effects. Hence, in the treatment, the means calculated to subdue or avert inflammation must be chiefly held in view, having, of course, regard to the delicate frame of the patient ; when, however, destruction has happened to any part of the cornea, other circumstances must then be taken into account to be mentioned more fully hereafter.

The purulent ophthalmia of new born infants, if met with at or immediately after its commencement, such, for example, as it admits of being in midwifery practice, is in almost all instances capable of removal by very simple means, certainly in by far the majority of them ; it would even appear sometimes to get well of itself without any interference whatever ; occasionally, however it happens, that this favourable period for its treatment has gone by before it is seen, when another and more serious one sets in, and where, in defiance of our best efforts, the disease may run on to an unfavourable issue. Having had an opportunity of observing it in all its various stages during a period of several years that I was attached to an institution for the treatment of diseases of the eye formerly in this city, it often appeared to me, that in some respects, its nature, and the changes through which it passes to its final termination, were not perhaps fully understood, and the opinions I then formed respecting it being since confirmed in the opportunity I have had of late years of observing it under a more immediate inspection at the Coombe Lying-in Hospital, induces me to submit these opinions to the consideration of the Profession, particularly as I think, that should I be correct in them, the treatment of a disease so often destructive to vision, may thereby, perhaps, be to some extent improved.

Although I have said that the disease at its commencement generally admits of an easy and efficacious treatment, I cannot, however, agree with those who look upon it even then as of but minor importance in every instance, or that if it be seen before the cornea is invaded, it may always be conducted to a

favourable issue. I admit this latter to be the case generally, but instances have fallen under my observation where the result was otherwise, though seen at that period; moreover, I am certain that this opinion respecting it has often led to a carelessness in the treatment which has ended in most unhappy consequences. I, therefore, fully concur in condemning the light manner it is treated in by some practitioners, who appear to think the application of breast-milk alone necessary for the cure at the commencement, assuring the parents at the same time of its harmless nature. I have met with several of such cases, indeed, which had been committed in this manner, I may say, to their fate, and where the first intimation of its true character was the announcement of the total destruction of the eye. I should, therefore, be cautious in any instance to give an assurance of the result until the inflammation was subsiding and the amendment evident. Of the necessity for this caution I cannot speak too strongly, having known children in many instances to have been under treatment from almost the commencement of the complaint, but where, in consequence of inattention to the state of the eyes, and neglect of the active measures at certain stages required, my first inspection of them disclosed their disorganization, though the impression at the time was, they were going on well.

The observations I have to offer on this subject I purpose dividing into the following sections or heads; namely, first, as to the cause; secondly, its progress, and manner the eye is destroyed, when destruction takes place; and, lastly, the treatment. As I have said, in many respects my views on these points are different from those at present entertained; they have not, however, been hastily adopted, being the result of observation made in the treatment of, I think I may say, some hundreds of cases.

Cause of the Disease.—The purulent ophthalmia of newborn infants is generally considered to arise from either of the following causes,—infection, caught from the mother at the time of birth, or—the incautious exposure of the child to the

influence of cold shortly after that event, the effect of which exposure is thought to fall upon the eye, inducing inflammation and purulency in the manner these are known to occur. Besides these, other causes have been spoken of, such as scrofula, bad air, clothing, and diet, the application of sordes, or of even gonorrhœal and syphilitic matter to the eye, while the head is being born, or of foul linen or sponges after birth; but the opinion in this respect generally is, that it results from either of the two former, to the first of which, (infection,) I believe practitioners are chiefly disposed to incline. I think, however, many reasons may be adduced to render it very questionable whether the disease can be justly attributed to any of these causes, and we shall now proceed to canvass their different merits.

With respect to the first, or infection, the mother, it is imagined, at the time of birth is the subject of leucorrhœa, and the eyes of the child in their passage through these parts where the matter of that complaint is secreted, becoming, as it is said, exposed to its influence, this matter is thought to act specifically thereon, so that in due time (three or four days) the disease is produced in them in the same way gonorrhœa is generated in other parts.

Connected with this view of it, however, I beg leave shortly to submit the following considerations.

First, although it must be admitted, that in the majority of instances, the period at which it shows itself after birth, namely, the second, third, or fourth day, is such as might be favourable to that theory, nevertheless it is equally certain, that a length of time frequently elapses before it does so, sufficient to render it very doubtful, indeed, if not altogether irreconcilable with such a supposition; it is a common thing to see it come on at the end of twenty-one or twenty-two days; Weller, in his Manual, states, that it sometimes does not appear for two months; cases of this description, however, are, I believe, unusual, but three weeks or a month are by no means so; I have seen it myself, and the fact is stated by many.

Secondly, we shall frequently meet with the disease in children, where the mother was perfectly free from leucorrhœa at parturition, or even had never, at any time, been affected with it ; and where, consequently, the possibility of such a cause must be altogether untenable. Of the truth of this I have in very many instances satisfied myself in cases that have occurred at the Coombe.

Thirdly, we likewise know, that in by far the majority of instances, where women are the subject of leucorrhœa at birth, their children are born and continue perfectly free from the disease. I am aware, cases of this description have been considered by some rather in the light of escapes from it, and that such escapes have been attributed to some chance circumstance operating at the time, and which saves the eye from the injurious tendency of the matter. Admitting, however, such occasionally to be so, but which I am disposed to limit very much, it is impossible it can be in every instance, leucorrhœa being a complaint, particularly among females of the poorer classes, of so frequent an occurrence, that the proportion affected with it compared with the ophthalmic results to their infants in the way we are discussing, is by far too great to admit of such an explanation in every instance.

With a view to the ascertaining, in some degree, of those relative proportions, I, at one time, endeavoured to make a calculation of them at the Coombe Lying-in Hospital, but I found it beset with such difficulties in the way that alone could throw any light on the subject, that I cannot advert to the result with the accuracy so desirable in the matter. It is obvious the question is, the number of women affected with leucorrhœa up to the moment and during the continuance of labour. Now, in this respect, I find, that when leucorrhœa is present during gestation, and which appears to be usually the time it is with married females, that it ceases in very many instances about two days previous to birth ; the parts begin then to take on a new and particular action for the production of the mucous

discharge, at this period copiously exuded, to facilitate the work of nature then about to commence ; and that whereby the leucorrhœal discharge was produced is superseded, and it disappears. The difficulty then that I experienced was, in having the distinction drawn between the two by the lying-in patients, when the one ceased and the other began ; and which in many instances was so confounded together, that I was unable satisfactorily to have the necessary distinction made between them.

Under every circumstance, however, I found, although for the reasons mentioned I was unable to come to any exact definite conclusion on the subject, that the disproportion was evidently so great, as to be quite incompatible with such a doctrine ; and I may, on the subject generally, observe, that of at least 700 females annually delivered within the walls of the hospital, and who do not leave it until from the ninth to the fourteenth day, we have not during the same period fifteen cases of purulent ophthalmia ; and further, at the daily dispensary held there, and which is resorted to chiefly by the females of the Liberties and their children, the former of whom are all delivered under our superintendence at the Coombe as extern patients, cases of this ophthalmia do not present themselves in a greater proportion.

The inference from these facts I think is obvious : it is unnecessary to dwell on what the number of leucorrhœal females must be in a population so dense as the Liberties are well known to contain ; and when those of the infants affected with this ophthalmia are only in the very trifling proportion stated out of such a number, the result must be, that making every allowance for chance causes operating at birth in the way I have said they are supposed to do, such numerous escapes could not possibly occur were the disease capable of being produced in the way we are speaking of.

I consider myself warranted in concluding, that every case of purulent ophthalmia in this immediate locality comes under our inspection at the Coombe, or very nearly every case, inas-

much as not only are all the females of that quarter of Dublin delivered under the superintendence of this hospital ; but, moreover, it is well understood that ophthalmic complaints are very principally attended to at that institution.

Besides these considerations, and which it must, I think, be admitted, bear strongly on the subject, analogy, a mode of arguing the question very much in point, is altogether at variance with the theory. We know that the male urethra, a membrane whose nature is precisely the same as that where this matter of leucorrhœa, according to the opinion we are now canvassing, is thought to take such effect on the eye, (the conjunctiva,) may be, and is exposed to it, without any diseased results ever occurring ; and if, then, we grant that one and the same cause can only affect similar parts in a similar way, the undoubted inference, I think, is, that the conjunctiva may also be exposed to it, and with equal impunity. Besides this, why are not other mucous surfaces also affected with it, for example, the vaginal ; there are, no doubt, some very rare instances of this latter occasionally to be met with, but they are so rare as scarcely to deserve noticing as at all affecting the question. Nevertheless if leucorrhœal matter were infectious in these stages of life, it is but reasonable to suppose that as these two parts are equally exposed to it, the purulent eye and infantile gonorrhœa would appear, if not in the same child, at least in the aggregate, in a more equal degree of proportion than they do.

It would be unnecessary, I consider, to dwell on the foregoing observations further than I have done, or to argue how they must influence the question now before us ; they are facts, as it appears to me, so much at variance with that opinion, particularly when considered together, if the question admit of being decided on principles of reasoning, that I conceive the recital of them alone sufficient for that purpose.

As against the supposition of the disease originating from exposure to cold, the following objections may, I think, with much justice, be urged :

If cold can be supposed to have taken effect on the system, sufficient to produce it, would it not be reasonable to imagine, that those symptoms which are to be observed when the frame is under the influence of it, and which marks its presence therein, should be so likewise here, and more particularly in the case of an infant of so very tender a period of life ; such as fever, discharge from the nose, sneezing, and other appearances unnecessary to relate ? However, no appearances of this kind are to be observed ; the eyes are affected, and perhaps severely, but in other respects, with the exception of the state of the bowels, to be noticed presently, the infant is quite free from unhealthy symptoms. In those instances where the complaint has been of long standing, and the bowel affection severe, or sloughing of the cornea, as it is termed, has occurred, the child, no doubt, is then very much reduced ; but this reduction, and the appearances resulting therefrom, are alone referrible to the latter cause, and very different from the consequences of severe cold from which they no way proceed ; moreover, it occurs at a period remote from the beginning of the disease, and therefore in no way connected with the cause. Besides, if this opinion were correct, should we not expect, that among the children of the poor, whose habits are, in a measure, peculiarly adapted for such a source of its production, the disease would be most prevalent, while with those whose means enable them to preserve their infants from any exposure to it, it would be very rare indeed, or perhaps I might say, never did occur ; nevertheless, the fact is, that it is to be met with among the one, equally as it is among the other class of persons. Practitioners in midwifery are well aware of this, and that the warmest and most comfortable apartments, and where it is impossible any exposure can happen, afford no security against the complaint ; but that instances of it are to be seen so frequently in these situations, as satisfactorily to prove, they afford no security against it.

Connected with this particular part of our subject, I think I may fairly submit our experience in this matter among the

wretched population which surrounds the Coombe Lying-in Hospital. There is not, perhaps, in the entire of these kingdoms, a district where misery and destitution in every respect prevail to so great an extent, as in that immediate locality. Habitations, scarcely deserving the name, and covering, so poor and scanty, as to approach very nearly to nakedness. In all these deplorable deprivations, the new-born infants must and do necessarily participate; and may I not fairly urge, that if cold and exposure were capable of producing the disease, here we should, as a matter of course, have it in the greatest possible profusion. But I have already said how very rarely it is met with at our dispensary at that institution, on the average, about once in a month, if even so often. Considering, then, how abundant such a source for it here exists, and still the great scarcity with which it is met, are we not justifiable in concluding, that, that scarcity, undoubtedly not more than in other parts of Dublin, is the most certain proof of the disease generally being in no way the result of it; moreover, if such were the case should not a manifest difference, under every circumstance, be observable in the number of cases occurring in the different seasons of the year, except among persons in particular stations of life; yet I believe I am perfectly justified in saying, that this is by no means the case; at least no such observation is made by any one.

I would not be understood as arguing against the capability of cold possibly to produce this complaint in the eye, under any circumstances; such a thing, no doubt, is possible, but we are considering the subject generally, whether it can be recognized as a general cause; and for the reasons I have mentioned, I consider it in no way can.

With regard to the possibility of its being caused by scrofula, bad air, clothing, or diet, or on the other hand, that it proceeds from venereal matter, either in the shape of gonorrhœal discharge, or of syphilitic sores, of sordes applied to the eye, while the head is being born, or of foul clothes, or sponges after

birth, I think all these can be disposed of, and in a manner which, to my judgment, appears perfectly satisfactory.

As to the first, we know that the complaint makes its appearance, in the great majority of instances, too soon after birth to allow them to take any effect in this way. It may readily be conceived, that these most prolific sources of disease might so operate, in the present instance, did the purulent ophthalmia of infants shew itself, in all cases, at the end of the third or fourth week, and not until then; but when we have it most frequently at the termination of the third or fourth day, and sometimes of the second, or even of the first, the matter I consider is so conclusive as only to require to be mentioned.

As to the last, it may be observed, if the disease were met with only among those of a dirty and abandoned life, such causes might probably be put forward without appearing altogether so vague as they must when we come to consider them with even a small degree of attention, but when we find it equally prevalent in all ranks, as well with the moral as those of the opposite walks of life, that circumstance alone is sufficient, independent of any other consideration.

But let us examine the subject separately as connected with a venereal origin in either forms of that disease.

With regard to gonorrhœa, can it for a moment be supposed that the purulent ophthalmia of new-born infants is in fact gonorrhœal ophthalmia in the new-born child, and which it virtually must be if it arise from the matter of that complaint? Were such the fact, I may fairly assert, that the number of cases ending in the total destruction of the organ would be infinitely greater than those ending favourably, a circumstance which experience altogether disproves; or I should be nearer the truth were I to say, that recoveries would be exceedingly rare indeed, nay, that this never would happen. The leading character of the gonorrhœal ophthalmia is the almost unerring certainty with which it destroys or permanently injures the

eye in defiance of the rigid antiphlogistic discipline resorted to for its subjugation ; I have already, however, said, that this one is prone to get well of itself without any interference whatever. Those who imagine the two diseases are the same, must either have very little experience indeed of the gonorrhœal ophthalmia, and the quick course it in most instances runs, or suppose its cure to be much more easily effected in the infant than in the adult. I should, however, think the direct contrary to be the fact.

That a case may sometimes happen in which a child, born of an infected parent, shall be afterwards attacked with gonorrhœal ophthalmia, must be admitted. I think I have witnessed it myself. Such are, however particular instances, and quite different from the disease understood as the purulent ophthalmia of new-born infants ; and when so unfortunate a circumstance does happen, there may be very little doubt but the result will be unfavourable ; and yet notwithstanding all these most obvious objections, it is surprising how we sometimes hear the disease attributed to that cause ; indeed so very little reflection appears to me to be necessary to shew the fallacy of supposing the disease in any manner connected with a venereal origin in either of its forms, (for the absence of ulceration at all times, is conclusive against the syphylitic,) that it should not have been noticed here were it not spoken of by some, and therefore when discussing generally its cause, I thought it but right to refer to this likewise, however inconsistent or at variance even with probability it might be.

I am very much disposed to imagine, that derangement of the bowels is connected with the disease in a more important manner than is generally supposed, and I think I can bring forward some facts in support of the opinion, that, like many other local affections, there may be grounds to suppose that in this instance also such derangement may possibly operate as a source for its production.

I have in the first instance to observe, that deranged bowels will upon inquiry, be always found to be present to a greater or less extent ; the fact is noticed by Mr. Saunders and others, but not, as it appears to me, with the importance it merits.

By attending, however, to this affection alone, so as to obviate irritation and correct the state of the secretions, I have in its earlier stages, in nearly every instance, been able to make a very decided impression on the discharge, so that where it was copious and purulent, it became less in quantity and much more watery, and that in a very short time, and very frequently by these simple means alone, the complaint has entirely disappeared.

I have certainly said, that the disease is prone to get well of itself, and it might therefore be supposed, that it was the effects of this disposition that was mistaken for that of the treatment ; but of the true cause of the amendment there could be no doubt, it too quickly succeeded to the latter, and the progress to a cure was too steady afterwards. It is almost needless to say that this can only be expected to occur when the case is in its first and earliest stage, and the inflammation if present but recently so ; when once disease is set up, and has continued in action for some time, it goes on of itself unaltered or affected, no matter whether the producing cause be removed or be still in operation ; notwithstanding which, I have seen this amendment to follow when the disease had been in existence for some days, and had proceeded so far that such an event might not be expected. I have likewise to observe, that in those protracted cases where the complaint was more difficult of management, the affection of the bowels I have invariably found to be more difficult of removal.

In a twin case lately at the Coombe, one of the children had this ophthalmia, and the other was perfectly free from it ; the bowels of the former were considerably deranged, while the discharges from the latter were perfectly natural and healthy : the mother was free from leucorrhœa at birth. This, no doubt, is but an isolated case, and as such can scarcely be used as a valid

support of a general principle, but it certainly is remarkable as connected with the statements here made, nor can similar cases be expected often to occur.

It is certain that the bowel derangement is either a symptom attendant on the disease, or the disease one resulting from it; for as I have stated, it has been noticed by all writers on the subject: and in either case it establishes a sympathy between the mucous membrane of the alimentary canal, and that of the eye, at this period of life, of a very remarkable nature; it would appear, however, that sympathies do obtain early in life between distant membranous parts, and which cease to exist afterwards, of which I cannot give a better example than "water on the brain," a disease which is now supposed by authors to have its original exciting cause in deranged bowels.

In this way might be accounted for a fact already stated, namely, as to the seeming disposition of the disease to get well of itself; and it may also be the cause why practitioners have occasionally been led astray, respecting its true character. Its appearance being accompanied by the bowel affection, a little oil, or magnesia, is generally given, by which means the latter subsides, and the former, probably resulting therefrom, disappears, the local application being possibly but breastmilk.

In inquiring after the state of the bowels, with a view to discovering the presence of derangement, it will often be necessary to be particular; and the more so if it be at the commencement of the disease. It is then usually but slight, and the mother is apt to inform us there is nothing astray, as regards them; when we come, however, to particulars, we shall find that there is griping, with greenish, curdy discharges. In the advanced stages, this is more evident, and at once attracts attention; among a crowd of ophthalmic patients, I have often been able to ascertain the presence of an infant labouring under this disease, from its peculiar, continued, and piercing screams; it would seem as if some part of the alimentary canal were rendered acutely sensible, and that that part were traversed by an acrid,

irritating matter, so intense are the screams of the child. On other occasions it is not so severe, but it will always be found to exist more or less, if it be attentively inquired after.

Progress of the Disease.—The first appearances of the disease are manifested in the tarsal edges of the lids, which have a tendency to adhere after sleep, or rather shreds of viscid, ropy matter draw out between them on their separation; intolerance of light may probably accompany this, and slight lachrymation; intumescence of the substance of the lids quickly succeeds; they become swollen and inflamed, putting on the appearances of a ripe cherry. The natural secretion of the parts is, at this time, also changed for a discharge of purulent matter, which, in the course of a day or two, flows most copiously. The eyes are now completely closed, and there is the utmost difficulty in obtaining a view of them; I have seen, however, very severe cases, where the swollen state of the lids was considerable.

I believe the disease, in many instances, goes no farther than this; that is, that tumid inflamed lids, with copious purulency, exist for some time, and still a recovery takes place, without any injury happening to the eye, or indeed its being at all much engaged, although there may not have been any interference on the part of art; or if so, at least of so inert a description as not to deserve notice.

I have frequently examined the eyes of children where these symptoms had for some time been, and were still present, when the globe was found healthy. I have also seen children, when the disease was on the wane, and in whom, on inquiry, I ascertained they had existed, yet the complaint was disappearing, without the eyes manifesting any remains of a previous participation therein, though no remedy had been at any time resorted to but breastmilk with some slight aperient; had the sclerotic been much engaged in these instances, it is more than probable some traces of it would have remained. I believe cases of this description are not very unusual, and it is likely that the op-

portunities afforded practitioners of observing them, perhaps frequently, and when nothing but the very simple means stated were used, have, among other things, led to the very erroneous opinion already alluded to as entertained by some, of the harmlessness of the complaint generally.

It is, I believe, the received opinion, that when the disease is as it were established, it is one of acute specific inflammation of the conjunctiva, and that the eye falls a sacrifice to it, when this misfortune happens, in conformity with the mode the organ is usually destroyed by that class of diseases. I cannot, however agree in this opinion as regards either of these statements; so far as that part of the membrane lining the lids is concerned it certainly is correct, it is there undoubtedly, in common with the rest of their substance, highly engaged, or appears to be so; but my experience leads me to say, that with respect to the portion connected with the globe, this is by no means generally so. I certainly have seen cases of the worst description, ending in injury of the cornea, and destruction of the eye, and where throughout, the inflammation of that part of it at no time prevented a distinct view of the sclerotica; and further, chemosis, which is the great characteristic of acute conjunctival inflammation (as the gonorrhœal) is not usual, I should say it was a very rare occurrence. The conjunctiva is sometimes, no doubt, slightly thickened, though this is but very seldom, at least such is my experience, but it is never seen putting on that formidable appearance we are accustomed to recognize in a genuine case of acute specific conjunctival inflammation, such as this is generally described to be, protruding to a certain extent through the lids, and imbedding the cornea therein, so as nearly to exclude it from view when they are separated sufficiently to enable us to see the condition of the parts they cover; this I should call chemosis, and it certainly is not an attendant on the purulent ophthalmia of infants, or if it at any time be, it must be very rare; I never saw it. If such a roll of conjunctiva as this, were behind the swollen lids, in my opinion that great difficulty in

opening them would not be experienced, inasmuch as it would keep the tumid internal surface pushed forward, and thereby that turning in of them which in any attempt at separating them at the commencement of the disease takes place, like a cylinder turning on its axis, be mechanically prevented. I know a different opinion from the above statement is held by most authorities.

If this account of the matter, however, be correct, and, I think, it only requires a little attentive observation to demonstrate it, the conjunctiva, in extreme infancy, would appear capable of resisting the effects of inflammation in great general excitement of the eye, beyond what it does in adult age, for certainly so far as the lids are concerned, the inflammation is here as great, if not greater, than what occurs in those ophthalmic affections where the morbid appearance, termed chemosis, is met with; when we come, however, to examine into the condition of the membrane as it exists in these opposite periods of life, we shall find, I think, that there are some anatomical or physiological differences to be observed, no doubt slight, but still what might in some measure at least assist in explaining so remarkable a circumstance.

The conjunctiva is intrinsically cellular in its formation, and constituted so, that in the discharge of its duties, it shall not in any way interfere with the motions of the eye, nor impede in any manner the ranges of vision the organ enjoys to so great an extent; and hence an elasticity is required in its nature, in order that it may readily accommodate itself, by alternate tension and relaxation, to these different motions, in whatever directions they are performed. In consequence of this, and of the state of action it is constantly kept in, its naturally cellular condition must in the adult be particularly developed, giving a laxity of character to it, that particularly disqualifies it from resisting the effects of unusual excitement or inflammation; whereas in the opposite, or very early stages of life, it has not as yet undergone that exercise by which this freedom, with its consequences on the

membrane generally, is induced : it is, therefore, more firm and dense in its nature, assuming at these periods more of a close and compact character. Of these two opposite conditions we may, I think, satisfy ourselves by a little attentive examination, and the different effects produced by the blow pipe on them can only result from such difference of conditions. In the adult the entire of the membrane, I have found, can be readily and easily inflated, so as to produce an artificial colourless chemosis, whereas in the infant still-born, no such appearance can be induced, the inflation being but very partial indeed, and confined to the immediate point of the instrument. Now, the result of these two opposite states must be, that while in the first its delicate vessels will readily yield to any thing of more than ordinary force, becoming turgid and swollen, and in that state easily giving rise to effusion into its cells; the comparative closeness of the texture of the other will, to say the least of it, oppose in some little degree a greater obstacle to such changes, or possibly might be sufficient to prevent them altogether.*

* Among other peculiarities of the eye in extreme infancy, the diaphenous condition of the coats is remarkable; they are nearly transparent, and from that we may in it easily observe the circumstance of the image of objects being painted in an inverted position upon the retina. If the eye be extracted from the orbit of an infant a few days old, or still-born, and placed with the pupil opposite to a lighted candle, the image of the flame will be distinctly seen, well defined on the posterior part of the globe through the nearly transparent sclerotica, its lambent extremity pointing downwards. This experiment has been made on the eye of a full grown animal, in order to demonstrate the same fact, but in consequence of the opaque state of the membranes, the sclerotica must in that case be dissected from the posterior part of the globe without disturbing the retina, an operation of much difficulty, sometimes unsuccessful, but always more or less attended with want of precision in the position of the parts, as highly necessary to the perfect formation of the image, all of which inconveniences are obviated in the one I here suggest. In reference also to the observation made in the text, it is probable that it is in consequence of the unused state of the conjunctiva there spoken of, that I have observed the motions of the eye in the newly born infant of the first or second day, to be so very limited and performed under such apparent restriction; the tenseness of the membrane I would suppose confining them to a certain extent. When any motion of extensiveness is

Whether the circumstance here stated can in any way contribute towards explaining the resistance the conjunctiva oculi appears capable of offering to the inroads of inflammation at this period of life, and which at a more advanced age it yields to, I shall not say, but the fact stated with respect to its condition in this disease I have repeatedly observed, and therefore I am led to think, that it is incorrect to consider it an acute specific inflammation of the conjunctiva, or indeed I very much question, whether it can properly be looked on as connected with conjunctival inflammation in any wise, further than so far as the portion lining the lids is concerned ; and therefore when the eye is destroyed by it, although like the other, such destruction is effected by destruction of the cornea, I am, however, of opinion, that this is induced by other means.

Manner in which the Eye is sometimes destroyed.—Death and slough of a portion of the cornea is the process held by Mr. Saunders, as that by which the destruction of the eye is accomplished, and the same opinion is adopted by many eminent surgeons. For myself, however, I coincide with those who think that this is effected by interstitial deposition, and it is probable that most of the appearances so accurately described by the former gentleman, will admit of explanation according to this supposition.

When the inflammation reaches a certain height in any part of that membrane, the vessels as elsewhere relieve themselves by effusion, and lymph is poured out into its substance more or less extensive, according to that of the inflammation by which it is produced ; when this happens, its transparency is impaired, it becomes dull and opake at the part so affected.

After the effusion has occurred, if it be not extensive, and

performed, it is done slowly, as if it required some exertion on the part of the muscle to overcome a certain resistance, and not with the quickness they are effected in the facilitated organ at more advanced life ; among the infants at the Coombe, I have frequently watched this interesting phenomenon.

that active measures are adopted, the inflammation upon which it depended may be subdued, and the lymph become absorbed without any, or but slight derangement; when, however, this does not happen, it acts like matter in other parts, and an absorption of the laminæ intermediate between it and the surface takes place, or if it be but trifling, it may remain, become stationary, and nebula, or a deeper loss of transparency be sustained.

The consequence of the former, however, is, that the lymph at length is denuded, effecting a breach in the substance of the membrane; it is now of a soft, viscid nature, and is not disposed to quit its position, among the jagged edges of the newly formed ulcer; it is likewise elevated above the surrounding sound cornea, the boundaries between them being distinctly marked.

When the lymph becomes denuded in this way, by the removal of the plates of cornea intermediate between it and the surface, an abatement generally takes place in the activity of disease, as noticed likewise by Mr. Saunders, but this I think can be readily accounted for.

While the lymph is contained in the unyielding substance of the cornea, rendered also acutely sensible by the presence of inflammation, it is easy to imagine that it acts as a source of high irritation, and which must be at once obviated when the state of tension is removed.

The result of this process, with respect to its effects on the eye, is various, and depends on the extent of the effusion, the depth it has gone, and the presence of inflammation or the reverse.

If it have been deep and extensive, the membrane of the aqueous humour may be bared, and together with a portion of the iris be protruded like a hernia through the ulcer of the cornea, the edges of which become wider, and the protrusion continuing to increase, staphyloma of one description is the result; on other occasions the membrane of the aqueous humour itself will be re-

moved, and the naked iris come forward through the opening, which if it be not repressed, will ultimately be productive of iridial staphyloma; the deformity in both these cases is considerable, in the latter it has somewhat the appearance of a dark grape, thrown into irregular masses by bands intersecting its surface.

The first appearance of the protruded iris (generally the sure precursor of the destruction of the eye) may be easily detected; it is seen peeping up through the purulency, of a fleshy colour; if, however, the purulency have disappeared, it may then be distinctly recognized—a round little flesh coloured eminence occupying the cavity of the ulcer; under favourable circumstances, if it be close to the edge of the cornea, the diseased action may be suspended, and adhesions be formed between the protrusion and it: this little eminence will then lessen in size, ultimately becoming a black spot thereon. Sometimes, under such circumstances, the pupil for the purposes of vision will be free, though dragged to one side, and assuming an oval shape; on other more unfavourable occasions, it may be engaged altogether in the protruded part, and vision, so far as it is concerned, be ultimately destroyed. The process of destruction mentioned by Mr. Saunders and others, of consecutive sloughing at one portion of the cornea, so as ultimately to perforate the membrane, I confess I have never seen so satisfactorily as to enable me to speak of it with certainty; the viscid tenaceous mass of lymph I have seen detached piece after piece, and ultimately the same destructive effects produced as he speaks of.

When these morbid effects take place, the inflammation usually subsides, as well in the globe as in the lids; the extreme tenderness of the latter, which in the commencement of the disease contributes so much to the difficulty of examining the eye, has then disappeared, and if a proper time be selected, with care and tenderness, the appearances may generally be attentively viewed.

The process here described may take place in any part of the cornea ; I think, however, when it happens in the centre, it is more likely to end favourably than when at the circumference, that is, advance of the iris will be less probable ; the pupil being situated there, may in some measure account for this, besides, the centre of the cornea is at the greatest distance from the sclerotica, the membrane from whence the vessels are supplied to it, and it being there consequently less under the control of vital influence, inflammation and its consequences, (suppuration,) when they do occur, will be to a less extent than elsewhere : ulcers of the cornea, in adult age, are certainly very frequently more difficult of a perfect cure at the centre, than in other parts, the last lamina being often not disposed to heal there. I have always imagined this was in consequence of their position on the membrane relative to the sclerotica, and in the same way I think it probable we may account for this ; at all events of the fact I am certain, that where this morbid process takes place at the centre of the cornea, it is more likely to end favourably than at other parts of the membrane.

We have heretofore been following the disease through all its unfavourable phases up to the disorganization of the eye, and it remains for us now to speak of the healthy process that sometimes sets in, after injury of the cornea has been sustained, and which on some occasions (though it is to be regretted but rarely) successfully carries it through the danger it has been threatened with ; as also of the appearances that mark its presence and point out the commencement of the favourable change.

When the process of destruction first assails the cornea, the membrane becomes dull, and of a dusky whitish colour at the particular portion of it which is about to suffer, the usual transparency, however, being preserved in the other surrounding parts ; but we are not to suppose that the continuance of this transparency is the indication of healthy action therein, on the contrary, it points out to us that this action, so far as healthy

action applies to the present condition of the parts, has not yet begun.

As regards that particular part of the cornea where such transparency continues unimpaired, it may be the test of the absence of disease in it; but the absence of the diseased cannot by any means be here considered as implying the presence of the healthy tone. True healthy action must now consist in an endeavour on the part of nature to repair the damage done by the diseased, and involves an active condition, whereas that which we have spoken of as relative to the existing natural transparency of certain portions of the cornea, is to be regarded as of a passive character; the diseased and healthy action are here in fact the opposites of each other, the latter succeeding to the former when it has abated.

The first appearance of healthy, reparative action in the cornea, is marked by a general dulness of the entire membrane; this dulness, however, is different from that which preceded the injury; the latter is a circumscribed, dusky, opaque white, the other a bright, transparent bluish tinge, like water lightly tinged with milk; it is general throughout the entire of the membrane, and is the result of lymph effused into its substance, in order, as it is thought, to repair the breach therein.

I have not seen this particular appearance so fully marked in injury of the cornea in any of the subsequent stages of life after the healing process has commenced; even in pustular ophthalmia, (the corneal affection of the eye immediately succeeding that of infancy,) it is by no means present to the same extent; and in healing ulcers of the cornea in adult age, it is usually confined to the immediate vicinity of the ulcer.

This, however, is the first symptom of healthy action, and it is quickly succeeded by another, the formation of a zone of vessels which surrounds the edge of the membrane, like a belt, encroaching somewhat upon its borders, and fringing the appearance just spoken of. These vessels first show themselves at that part of the circumference nearest the ulcer, if the breach

be not in the centre of the membrane, and finally surround it in the manner mentioned, nor will the ulcer be repaired, if it be reparable, till they are both manifested.

We are not, however, to flatter ourselves with the assurance of a perfectly favourable termination in every case they are to be observed in; they are, as I have said, no doubt, the announcement of healthy action, and set in when the diseased one has abated; but even after that, the viscid tenacious substance of this lymph will sometimes, layer after layer, be removed, until finally, the depth of the parts are so thinned, that the iris cannot be retained *in situ*, when its protrusion takes place with the consequences already detailed; and as I have often seen this to occur during the presence of those healthy symptoms, among others, it is one of the reasons why I am disposed to question the doctrine of Mr. Saunders, as to consecutive sloughs of the cornea itself, inasmuch as, if that were the case, such a succession of them could only be the effect of unhealthy action in the part, and thereby the presence both of the diseased and the healthy existing at the same time in the very same part be implied, which I take to be very improbable. I have, however, been frequently disappointed in my expectation under these apparently most favourable circumstances, and where, in addition to these, the ulcer appeared clearing, and the papilla, so well known to those acquainted with ophthalmic disease, occupying the bottom thereof, when the iris has slowly entered the little sac, gradually coming forward, on some occasions capable of being repressed, while on others engaging the pupil therein, and finally destroying the eye. These cases, as I have already hinted at, usually occur when the ulcer is towards the edge of the cornea, when situated in the centre I have more frequently witnessed a favourable result.

Notwithstanding that this unfavourable turn sometimes takes place as the curative process is progressing, it does not, however, suspend those general appearances that I have denominated healthy; they still continue, like an endeavour on the part

of nature, to repair the injury sustained. This unfavourable turn, however, cannot be considered as proceeding from the opposite or unhealthy action, it must be regarded rather in the light of mechanical injury, in the way of pressure of the iris against the ulcerated cornea, and probably would, more correctly, come under the head of accidental ; it therefore cannot, by any means, be considered as militating against the position I have laid down, of healthy and diseased action being incompatible at the same time in the same part.

If the reparative process go on favourably, and the ulcer make a perfect and undisturbed cure, the appearances on its edges are somewhat peculiar, they become elevated, and coursed over, particularly where they lie near the sclerotica, by the thick fringe of vessels already spoken of ; very frequently this process is slow and becomes nearly stationary, but may be roused into activity by a stimulus properly used. The purulency often continues very troublesome in these advanced stages, and I have known it resist every judicious local application, and internal remedy, and then disappear altogether in one day, as it would seem of its own accord.

I have stated, that when the cornea is morbidly engaged, the inflammation of the lids generally abates, it however does not altogether disappear, but seems to linger as it were about their edges, nor is it finally disposed to yield until the amendment on the globe is decisive ; and I have sometimes predicted the presence of corneal disease, previous to my examination of the eye, in consequence of the existence of this morbid appearance on the edge of the lids, where I had been informed the disease was of very long standing. We may also observe, where one cornea is injured, and the other not, that the lid of the affected one continues diseased at its edges, while that of the sound one has probably become perfectly natural.

The process above described as that whereby the eye falls a sacrifice in this disease, would, like the complaint itself, seem to be peculiar to the new-born child, and not observable in other

affections of the organ in after life. There may probably, however, be some explanation of it derived from the anatomical character of the cornea in infancy so very early, and which quickly changes as existence proceeds.

In extreme infancy the cornea is exceedingly loose and open in its substance, the anterior chamber can scarcely be said to exist in consequence of its thickness; in after life, however, it becomes more thin and firm, and ultimately approaches to a horny nature; hence its name. The result of these opposite conditions, I would suggest, then must be, that in the first, when inflammation exists in the sclerotica, a facility is thereby afforded for its being at once transmitted into the cornea, (the vessels of the latter being, as I have already stated, the continuance of those that have previously traversed the former membrane,) whereas as we approach to adult life, its increasing density must offer an obstacle to such an occurrence, a mechanical resistance as it were being thereby opposed to the transmission of other than the transparent parts of the blood, except under peculiar circumstances. Nor is this all; it must likewise, I think, follow, that when the membrane does become the seat of inflammation, it is possessed of very little power of resisting its effect; hence large patches of it fall a sacrifice, deeply and extensively engaging it, and quickly destroying the eye, an event which is better resisted in its changed state, and when it occurs, is more limited. Compare the effect of disease on it in the different stages of life; in that we are speaking of, deep and extensive; the pustular affection peculiar almost to the next succeeding age; and the disposition the cornea has to resist inflammation and its consequence in the adult, when sclerotic inflammation exists even extensively, unless modified by struma or some other peculiarity.

Viewing then the condition of the parts in this, which is their true light, may it not be fair to imagine, that the very destructive nature of the purulent ophthalmia of new-born infants, arises from this peculiar state of the organization of the cornea, and

that were the membrane at such periods of life endowed with the firm compact nature it afterwards possesses, the disease would probably pass off after some time, without the sad effects which unfortunately but too often now do follow. It is admitted on all hands, that the discharge can have no effect in producing these extensive changes on that membrane, and it requires but very little attentive observation to see that the state of the conjunctiva can in no way influence them, as it most probably does in its true specific inflammations, as the gonorrhœal and purulent ophthalmia of adults. Sclerotic inflammation, the precursor of corneal disease, in its ordinary state, is not observed to induce them, and to what then are we to attribute such rapid, extensive destruction which sometimes here does take place, unless it be to some peculiar susceptibility of the cornea, (the seat of all the evil,) at these periods of life to be readily effected by inflammation and its results, and which the physiological fact here stated may possibly account for.

I am aware that in support of a specific virulent character in this disease may be urged, the destructive inflammation which sometimes is supposed to take place in the eyes of the mother, or attendant on the infant affected with it, in consequence, as it is supposed, of the application of its matter.

With respect to this, however, I can only say, that so far as my experience has gone, I have seen but very few instances of it, indeed I cannot say more than two ; and in these the disease in the mother not only possessed all the characters of gonorrhœal ophthalmia, but the subjects of them were precisely of that description of persons where such a case would be most likely to occur. If, therefore, these instances were specimens of the purulent ophthalmia of new-born infants set up in the eye of an adult, in consequence of the transfer of its matter, I can only say they differed from the latter in many circumstances, and precisely resembled the former in all ; the result was unfavourable in each instance, as well with the mother as the child ; for notwithstanding the resemblance that exists between the two

diseases in external appearance, they are, nevertheless, capable of being discriminated. In the purulent ophthalmia of infants, the swelling of the lids is more tumid ; in the gonorrhœal, though swelled, they are more flaccid and drooping, or at least soon become so ; when attempted to be raised in the former, the internal surface rolls inwards or droops down, filling up the space between the cilia, no matter how far their cartilaginous borders are separated ; whereas in the other, although the latter appearance likewise, to a certain extent, occurs, their internal surface, however, has not quite the fleshy character to be observed in the former, neither is there that difficulty in exposing the eye. There is also some difference in the discharge ; in the first it is copious, flowing with a stream almost peculiar to itself, and in resemblance in every respect precisely that of pus with some very few exceptions, whereas in the latter it is not so abundant, and is more of purulent matter commixed with tears or mucus ; there is likewise the extensive chemosis in the gonorrhœal, which I can only say, I have never observed in the purulent ; besides which, the mode the eye is destroyed, in each is different ; I have already stated that whereby this is effected in the infant, in the gonorrhœal the excessive, tumid chemosis would appear at least to contribute a principal part therein, constringing the vessels that nourish it, and acting, as stated by Mr. Travers, in the same way that a bad case of paraphymosis does in other parts, destroying the entire of the membrane on some occasion at once in a very short time, to which may be added, the different tendencies of the two diseases as already noticed ; the one naturally disposed to get well, in many instances without any or but little treatment, the other to progress to organic destruction, in defiance of the most judicious we are acquainted with.

These different characteristics between the two diseases, will enable us often to detect the one from the other, however apparent the resemblance between them may be, and judging from them, I infer that the few cases alluded to were gonor-

rhœal in their nature, and not belonging to that we are here treating of.

Treatment of the Disease.—The state of the eyes should always be first ascertained before proceeding to the treatment, particularly if the case be not seen until it has existed for some time; they may be already destroyed, which it will be better then to make known, than afterwards, when probably they have been long under cure; besides, the treatment must vary with the different stages or conditions of the disease.

On opening or separating the lids, however, for that purpose, care should be taken that no unnecessary pressure be made on the globe, particularly if the disease have existed for any length of time; the process of destruction may have gone on in the cornea to such an extent, as to render it very thin at some part, and any great pressure then might rupture the part so thinned, and destroy the eye at once; I have witnessed the occurrence of this misfortune before now; the surgeon, in his anxiety to ascertain the state of the disease, proceeded with more force than judgment; the globe was exposed certainly, and shewed disease of the cornea, it was, however, instantaneously followed by a bursting of the eye at the part so diseased, with immediate prolapsus of the iris: destruction of the organ, as may be imagined, was the consequence.

I have stated, that the treatment should vary with the state of the disease, which we may therefore divide into two stages; the first, inflammation of the lids, purulency, and probably inflamed sclerotica; the second when it has passed on and injured the cornea, which may be either in a state of suppuration or of ulceration, the ulcer still containing the originally deposited lymph matter.

Mr. Saunders has very properly recommended the use of leeches in the first or inflammatory stage, and if the inflammation be high, they should not be neglected, the great danger to be apprehended is, the cornea becoming engaged, which they mainly assist in preventing, or if this have already taken place,

they often cause an absorption of the deposited lymph, and prevent the formation of an ulcer; in their use, however, we must recollect the great vascularity of the skin in infants, and the difficulty sometimes in stopping the hæmorrhage from their bites; I think two leeches, one to each eye, will be in most instances sufficient, except under very urgent circumstances, having recourse to them again if required; I prefer this to the application of a greater number at once, having seen cases where there was reason to regret the latter practice.

After what I have said as to the connexion which may exist between the bowels and the disease, it is unnecessary to say, that I consider the strictest attention to the former indispensable. The hydrargyrum cum creta in grain or half grain doses, twice or thrice a day, will probably be the best medicine we can administer. This, however, should be persevered in steadily, till the uneasiness and irritation of the bowels be removed, and the appearance of the dejections become natural; and of such importance do I consider this part of the treatment, that in bad obstinate cases, I direct changing if possible the nurse, the milk of one woman often disagreeing with the child, and causing all this bowel derangement, and which is at once obviated by that of another: almond milk I have often likewise given with benefit where it was obstinate; if this be used, however, it should always be made fresh, from the tendency it has to become sour, and if the child be spoon-fed, the utmost care should be taken that only so much food shall be made at a time as shall be used, and the vessel employed for that purpose be then instantly cleansed; this is a want of attention on the part of those who spoon-feed infants, which is very much to be censured; bread and milk is the pap usually given to them, and what is left from one feeding is generally kept over, and given re-warmed at the next. Now there is nothing that has a greater tendency to get rapidly sour than this kind of food; what remains from one meal is acid at the next, and its admixture with fresh food vitiates the entire. In consequence of this

and of the neglect of cleaning the vessel in which it is made, we generally find fed infants, what are termed cross children, the victims of griping and infantile colic; the bread should be of the very best quality, first washed, the milk composed of equal or two parts of water, and one of milk, and sometimes a little calcined magnesia mixed through it. In very obstinate cases, I have often given, with much benefit, four grains of calomel and four drops of tincture of opium, into four or six papers, one to be taken night and morning.

I prefer mild collyria, a grain of nitrate of silver to the ounce of distilled water, or the alum wash in the proportion of two or three grains to the same complement, or acetate of lead or zinc wash, in the one grain proportion, with strict attention to the bowels in the manner stated; I think we shall scarcely fail with collyria of these strengths, in effecting any advantage to be derived from them: latterly very strong and irritating applications have been advised, in the shape of ointments or nearly saturated solutions of nitrate of silver, and from the very respectable authority they come to us recommended by, we cannot, I think, question their great utility and power in suppressing the discharge, and perhaps arresting the disease; for myself, however, finding as I do, how readily it yields to the mild descriptions I have mentioned, with the collateral treatment spoken of, I have continued to use them, and cannot, therefore, speak of the others from experience. I have very frequently found, that one of the above collyria will answer exceedingly well for a time, and afterwards cease in its effects, and then by changing it for any of the others, a rapid improvement takes place, or perhaps the discharge disappears altogether; change of air, I have constantly seen to act with great benefit, particularly in hospital practice; the purulency copious, while the child was in the house resisting every thing, and with the disease rapidly disappearing on leaving it.

Blisters behind the ears by some practitioners are not approved of, from the apprehension of their producing a descrip-

tion of ulceration very difficult of cure at this period of life ; I have never, however, seen any untoward consequences from their use. Were the surface extensively broken by them, such consequences might probably ensue ; the manner I employ them in, is by greasing two or three threads of worsted with the blistering ointment, and inserting the threads so greased close in behind the ears ; in this way I have never seen any unpleasant description of ulceration induced, but have found their application of much benefit.

The lids are very much disposed to adhere during sleep, and their separation afterwards is productive of much irritation to the already irritated parts ; it is, therefore, of consequence to prevent this from taking place, and which is readily accomplished by the use of the mild citron ointment, the unguentum nitratis hydrargyri mitius, and zinc ointment, mixed well together, a small portion of which is to be melted and inserted between them twice a day.

By these means, when the inflammation is confined to the first stage we shall mostly succeed in effecting a cure ; attention to the bowels, collyria, blisters if necessary, behind the ears, obviating the tendency of the lids to adhere, and resorting to leeches, as they may be required to keep down or subdue inflammation : the eyes themselves, however, and particularly the cornea, should be narrowly watched ; but indeed, I think I may say, as regards this, which I call the first stage of it, when the disease is confined to that stage, the treatment required is but simple, and almost always efficacious ; the chief thing to be attended to is the keeping down of the inflammation, whereas the attention of most practitioners, it would appear, is directed to the suppression of the discharge alone, to remove which, it is thought, is to cure the disease, and against which opinion an exception cannot be too strongly urged. The danger consists in the inflammation being transferred to the cornea, and when this does happen, a train of morbid symptoms set in, in most instances incapable of being restrained, and only to be

managed when they are manageable by proper and just notions of their nature.

We have heretofore been considering the treatment when it is applicable to the first stage alone ; we shall now proceed to that where the cornea becomes engaged, requiring much more judicious management, and a more experienced acquaintance with the disease. I have mentioned that this may present itself in two different states—suppuration, where the surface of the membrane is not yet extensively broken—and when ulceration has taken place ; and in these two the treatment will vary.

In the first, if the deposition be extensive, the prospect is very unpromising ; the probability is, it will come forward, break up the membrane deeply and extensively, and disorganization follow. Our object, however, is to induce absorption beforehand, if we be in time, and this is to be affected by decisive means only. For that purpose our reliance must chiefly be on leeches, and considering the importance of the organ at stake, they should be used with more freedom, so as to make an impression on the system of the little patient, the inflammation is at once and effectually to be extinguished, a few hours in this state generally rendering the case hopeless. Tartar emetic in very small doses, the sixth or eighth of a grain three times a day, I have also used with much benefit, though I do not approve of a repeated use of it in infants generally. Blisters, in the way spoken of, are indispensable behind the ears, and the collyrium if necessary must be of the mildest description, as the alum wash. I consider the strong stimulating applications above alluded to to be destructive in such cases ; the cold alum curd applied over the lids, I think, I have seen sometimes beneficial.

If we be fortunate enough to see the case in sufficient time, we may by such means, actively resorted to, occasionally prevent the further advance of the inflammation and save the eye, as I have known it to happen in some seemingly unpromising cases. Sometimes it will clear, and on other occasions a stain will remain, nebulous only, or perhaps deeper, and forming

an albugo or pearl, as it is termed ; but should it not take this fortunate turn, it progresses to the next stage, when breach of the corneal texture takes place ; this is what is termed slough. I have already, however, stated my objection to that term, nevertheless I shall for the present retain it for convenience, to designate the morbid appearance it is applied to, as I shall have occasion to refer to it often.

Although where this stage of it occurs, there is an abatement of the inflammation generally, still it is in some way as yet present in a kind of sub-acute state, and while it is so, healthy action cannot set in decidedly. If the consecutive sloughing of Mr. Saunders be correct, it is a clear proof of this, as it can only result from it. I therefore, even here, would have recourse to a leech or two to subdue it ; blistering or cold application I should not think of much utility.

By this time the disease may have been of long standing, and this, together with the sufferings of the infant, generally reduce it much ; we should therefore be very guarded as to the extent we carry antiphlogistic means, as they must add to this already existing evil. Mr. Saunders has very judiciously advised the tonic plan to be now adopted ; his recommendation of the extract of bark is also most judicious ; I have given it frequently, and with the most decided benefit in the manner he recommends it, to the extent of sixteen or eighteen grains in the day in repeated doses ; it must, as he states, be softened down and given in a little pap.

Sulphate of quinine, it might be supposed from its condensing the virtues of the bark in a small space, would be peculiarly adapted for these cases. I have tried it, and in my hands it has not been as serviceable as the other preparation : the sulphate of quinine, even in the adult, often disagrees with the stomach, and if it should have that effect with the infant, which is a very likely thing, it is impossible any advance shall be made in the cure ; when the stomach is deranged, local or even constitutional disease progresses but badly towards amendment.

Doctor Mackintosh has advised the exhibition of two drops of brandy to the infant in a little food. I have given it, or what is the same, good whiskey, and with very decided benefit; three or four drops is the most I have gone to, three or four times a day: the amendment in the eye is evident in a day or two, the transparent bluish tinge, spoken of in the last section, appearing; but it is in the general appearance, and particularly in the face of the child, it is manifested; the sunken, worn-out aspect giving way, and becoming replaced by the ruddy tinge of health; the bowels must still be attended to.

I do not approve of collyria in these cases; they have been advised in order that they may effect the removal of the sloughs, for the purpose as it is said of enabling the proper application to be made to the ulcer to stimulate it to heal; my objection is to this very point, it is on mechanical principles, and I shall state it.

We know not to what depth the slough may have gone, it may have bared the membrane of the aqueous humour extensively, and if so, its presence alone keeps the part so denuded *in situ*; its premature removal therefore must necessarily be followed by an advance of that membrane, most probably accompanied with a portion of the iris, and of course leading to the destruction of the eye. I prefer attacking the breach by the above constitutional measures, and for the present should be rather desirous for the continuance of the slough. The state of the parts probably is—deep ulcer of the cornea occupied with the slough; now, ulcers of the cornea, like those in other parts, heal from the bottom, and if we succeed in forwarding this process to a certain extent before the slough is removed, the part is as it were secured against the impending danger, (hernia of the iris,) and then on its removal a manageable ulcer is what we have to deal with; but under the other circumstance the untoward result I have mentioned must follow.

It may be imagined by those who have not seen this morbid condition of the parts, that a slough could scarcely restrain the

pressure from within in the way stated ; more particularly if the morbid matter be diseased lymph such as I have described it. It is, however, of peculiar tenacity ; in the adult, something similar to it occasionally does take place, completely perforating the cornea, and by its remaining in its position blocks up for the time being the perforation so made. I have in such cases (for the experiment could not in the infant obviously be made) sometimes passed a fine Anel's probe completely into the anterior chamber till its point appeared behind the cornea, demonstrating in these cases the extreme tenacity of such matter, and its consequent capability to block up these openings ; there is also in Mr. Saunders something tantamount to a similar statement ; he observes, that the membrane of the aqueous humour is sometimes bared, with its destructive consequences, when by a succession of *sloughs* the entire of the cornea anterior to it is removed. We differ only as to the nature of the so consecutively removed parts, whether they be actually portions of cornea dead and cast off in the shape of slough, or what I have stated them to be ; my reason for adopting the latter opinion I have already advanced.

Whether, however, they be sloughs, or what I contend for, is immaterial, I think, for my position ; it is admitted on all hands, that advance of the iris is endangered on their complete removal, and therefore I would object to the practice that must lead to it prematurely.

For these reasons then, I am opposed to collyria in such a state of parts, and my reasons are, lest they might effect that for which they are employed by those who advise them, namely, the removal of the sloughs.

If the case go on favourably, I mean so that the eye shall be ultimately saved, it sometimes happens that there will be a cessation of the reparative process, it will be at a stand and resist the collyria, and all tonic means. I prefer, in such cases, throwing a jet of a one grained solution of nitrate of silver on the ulcer from an Anel's syringe, to increasing the strength of the

collyrium ; if a favourable opportunity be taken while the infant sleeps, this can readily be done, and it generally excites a return of the healing process. I would again, however, observe, that we are not to be too sanguine in these cases, particularly if the lesion be at the edge of the cornea, even when matters appear favourable.

The advance of the iris is easily detected ; its appearances have been already stated ; it is generally the completion of the destructive process, and our object should now be to restrain it in its progress, so as if possible to save the pupil. I believe, for this purpose, there is but one means, namely, the application of the solid nitrate of silver ; but in order to this, the application should be made with particular caution ; a pencil of it must be thinned and brought to a very fine point, by repeatedly dipping it in water, and with a piece so prepared, the top of the little button of the iris is alone to be touched. If the application be made with rudeness, so that the caustic is brought in contact with the cornea, great irritation will be produced, and perhaps the state of parts rendered worse by it ; besides, if we succeed in stopping the advance, the cure will be attended with opacity of the cornea, rendering the eye useless ; but by proceeding in the way here advised, (touching solely the top of the eminence,) there is no inconvenience experienced. Very frequently, when the protrusion is not extensive, by such cautious mode of proceeding it recedes, and vision is preserved. In order to succeed in this way, a proper opportunity should be selected ; when the child sleeps, the upper lid is to be then cautiously opened by the practitioner, standing at the head of the infant, and the nitrate carefully brought into contact with the part. I have tried solution of the salt in the strongest possible form, but it had little or no benefit, the solid nitrate is alone decidedly serviceable, when service can be rendered, and the caution above advised in its employment is to be attended to.

It is almost needless, however, to remark, that we cannot by

any means generally expect this stage of the disease to assume so manageable a form ; when protrusion takes place, the eye, in the great majority of instances, is lost, the results as to appearances being various. Most frequently, the advance of the iris, or of the iris covered with a plate of the cornea, goes on, terminating ultimately in staphyloma, which sometimes continues to extend, until the enlarged globe becomes incapable of being received within the closed lids. The deformity now is considerable ; the protruded, diseased cornea being constantly exposed to the action of the atmosphere, inflammation is quickly set up in it, accompanied with the greatest irritation, and only to be relieved by surgical interference, so as permanently to evacuate or destroy the globe, and thus to allow it to shrink within the orbit. I have sometimes known this state to be, to a certain extent, repressed by the action of the solid nitrate of silver, but generally after some time it ceased to have its effects, and the disease advanced ; however, as this condition of the parts, when it occurs, constitutes another affection, (staphyloma,) to enter upon it or its treatment, in anything of detail, would be foreign to the object of this communication, which professes alone to speak of the purulent ophthalmia of infants.

ART. VII.—*On the Diagnosis and Treatment of Hydrothorax.*

By HENRY KENNEDY, A. B.

[Read before the Medico-Chirurgical Society, February 2nd, 1839.]

THE subject matter of the following paper is the result of observations on cases which have occurred under my own care, and which have been confirmed by numerous cases of a similar description met with in hospital : for opportunities of making observations on these last cases I have been much indebted to my friend Dr. Russell. It was remarked by Laennec, and confirmed by all subsequent observers, that hydrothorax was seldom if ever an idiopathic disease, and that properly speaking it is

more a symptom than a disease itself: in the language of Hunter it is a disease in a part, not of a part. The organic changes which precede this symptom, may be found in the lungs, heart, liver or kidneys: of these, disease of the liver or heart are the most frequent causes; it is very common to find these two combined giving rise to hydrothorax. If I were to speak from my own experience I should say, that disease of the heart, in some form or other, was the most frequent cause of all. In the Medical Almanack, a work lately published, will be found a brief account, by Dr. Glendinning, of the statistics of a large number of patients who died of different diseases: among these heart disease takes the lead even of phthisis itself in the proportion of 33 to 14½ in the hundred. It is to cases of morbus cordis as a cause of hydrothorax, that I wish more particularly to draw the attention of the Society. It is not my intention, even were it possible, to enter into any detail of morbus cordis; suffice it to say, that at some period of its course, sooner or later, serous effusions begin to manifest themselves, commencing generally about the ankles, and then spreading to other parts of the body. There is considerable variety in this respect, influenced somewhat by the natural habits of the patient: thus in one who keeps himself very quiet, and much in the horizontal position, there may be but the slightest appearance of œdema of the lower limbs, at the same time that there exists ascites and even hydrothorax; while in another who walks and stands much, the effusion will be confined to the lower limbs for months before it spreads to other parts. It is not uncommon either to see cases where ascites and hydrothorax are the only serous effusions, and I have now met several instances where this latter existed alone.

I am aware of the opinion, that passive effusions are rare; possibly this may be so when we compare the frequency of ascites with hydrothorax, but undoubtedly this latter is much more frequent than books would lead one to suppose. At a period of morbus cordis usually advanced, hydrothorax makes its appearance; for the following reasons it is important that

its existence should be known :—1st, it greatly aggravates the patient's sufferings ; 2nd, a knowledge of its presence materially alters our treatment ; and lastly, though a late symptom of disease, it may be warded off for weeks and months, so that the patient's life may be prolonged and rendered comparatively easy. It may be said that the diagnosis of hydrothorax is easy, and being once known, a proper treatment follows as a matter of course ; but such is not the fact ; there exists greater difficulty than any one who has not given attention to the subject would suppose: the truth is, the physical signs of hydrothorax differ materially from those which effusion, the result of acute disease, affords. I believe that an inquiry into the circumstances of each case will, in a great measure, clear up the difficulty.

It is stated by Andral in the first volume of his *Clinique Medicale*, that in very many cases of heart disease, the patient suffers from dyspnoea long before any decided symptoms of morbus cordis manifest themselves, and that on applying the stethoscope, the respiration will be found to be puerile, or at least performed with a degree of clearness and intensity which should always put the medical man on his guard. I have found that this state of respiration continues to the last, and on it, I believe, will be found to depend the distinction which I am endeavouring to draw. Laennec thought that in a case of pleuro-pneumony, the one disease modified the other ; the pneumonia keeping in check the quantity of effusion, and this latter preventing the lung from reaching the state of engorgement which it otherwise would. Whether he was right or not I cannot say, but one of the cases put by him bears a strong analogy to the disease under consideration. Let us consider the case: a patient is labouring for months under dyspnoea at the same time that the respiration is very strong ; what must be the result? By the constant exertion the lung is brought to the greatest degree of vigour of which it is capable, and if muscular structure exist, it becomes hypertrophied ; under these circumstances, I think, it will be admitted that the lung is placed in a state where it is

capable of most powerfully resisting effusion into the pleural sac, and such I have found to be the fact. I believe it is owing to this that passive effusions are comparatively rare, and that in many cases they are poured out during the last few hours of life, when the tone of the system is as it were destroyed: it must too have struck every one as strange, that effusion should follow so constantly on acute disease, and yet that passive effusions should be so rare when there exists such a strong tendency to pour them out in other parts of the body. I have observed that the greater the intensity of the respiration, the less chance there is of hydrothorax, or in other words, the more the lung resists, the longer time the effusion will be in making its appearance, and the smaller will be its quantity. I believe that in such cases œdema is more apt to supervene than hydrothorax. It must be borne in mind too that no pain of the side exists as in pleurisy, and consequently there is no animal instinct which at once puts a stop to the motion of the ribs, and to the filling of the lung with air.* Whether the explanation offered above be correct or not, certain it is, the physical signs of hydrothorax caused by heart disease, are materially modified when contrasted with those of acute effusion: these signs may be divided into those afforded by percussion and by auscultation.

When we employ percussion in a case of hydrothorax, on the postero-inferior part of the chest, we will find it does not give such satisfactory results, as in a case of pleuritic effusion; the reasons for this are, that the effusion is almost constantly double, consequently we cannot avail ourselves of comparative percussion, and although one side commonly contains more than the other, still it is seldom sufficient to make any marked differ-

* In a case of pleurisy which I saw very lately with Dr. Irvine, this idea was remarkably confirmed: before V. S. the respiration could scarcely be heard: immediately after, it had become clear and distinct. This is the only explanation that can be offered for a fact, which has been observed by others as well as myself, namely, the total abolition of respiration in the first stage of acute pleurisy, before effusion could have taken place.

ence ; cases no doubt occur where the fluid is contained in one pleura, but they are exceptions to the general rule. As far as my observation has gone, when the effusion was single, the right pleura was the one engaged. A second reason is, that the fluid is in small quantity, and the lung is more permeable to air ; percussion, therefore, does not give that degree of dulness which might be expected, and in fact if there be any difference between the sound elicited in a case of pneumonia and one of hydrothorax, it is very slight, whereas the difference between a case of acute pleuritic effusion, and a solid lung, is so great as to be a valuable diagnostic to any one accustomed to percussion. I have seen some cases which would lead me to suppose that the lung was equally enveloped in fluid over every part of its surface ; but not having been able to satisfy myself fully on the point, I shall merely allude to it here. In other cases gravitation acts on the effusion, and altering the position of the patient causes the sounds on percussion to alter likewise. In four instances the following plan answered remarkably well : when the patient was lying down, percussion under the clavicle was tried ; the sound was quite dull, but became clear when the patient sat up : the very contrary took place in the mammary region, the lung being floated forward against the sternum and ribs when the patient was horizontal, but being displaced by the fluid when he sat up. Many cases, however, occurred where position had no effect on the sounds afforded by percussion.

On applying the stethoscope, the degree of respiration heard is greater than in cases of acute effusion : from what has gone before, this indeed might be inferred, and I believe it may be laid down as constant : when the effusion has become very considerable, the respiration will be heard to be tubular ; in other cases it will be heard distinctly, although evidently removed a considerable way from the ear. I have seen two cases of hydrothorax where the breathing could scarcely be called other than natural on a forced inspiration ; and yet there was marked dulness on percussion ; and I lately saw a case of empyema in a

child, where the degree of respiration was much greater than I ever heard in a similar case in the adult : the state of the breathing at that age will probably account for this. The muscular energy of the two individuals just alluded to was very great, and the expansive power of their chests much more than what is common ; the clear degree of respiration heard, might therefore be accounted for by supposing, that when a forced and powerful inspiration was made, the lung actually enlarged itself, although at the next minute it was compressed by a fluid. Every one knows, that when a lung which has been in contact with a passive effusion is taken from the body, it can be inflated with great ease : the inspiration in most of the cases is clear and short ; it is not common to have œdema of the lung and hydrothorax co-existent. There exists a sign, which of late years has been a good deal decried, and as far as I can observe, unjustly : I allude to œgophony ; true, indeed, it is not always present, but what symptom is ? The causes which produce the phenomenon are not present ; how then can the sign be ? A certain degree of condensation of the lung, together with a quantity of liquid effusion, are the causes of this peculiar sound, and when these are present, the sign is seldom, if ever, absent : in this respect there is a marked contrast between hydrothorax and acute effusion : in the former it is not heard until the disease is far advanced, and indeed, I have never heard it unless in cases where the fluid was confined to one side, and had accumulated to such a degree, that the lung must have been inevitably compressed, whereas in acute disease it will be heard when the amount of effusion does not exceed one pint. I have never heard it where the effusion was passive, and at the same time double, because life could not exist where both lungs were compressed to such a degree, as to produce the phenomenon. Laennec in his great work stated, that œgophony is only to be heard in the early stage of acute pleuritic effusion, and again when the fluid is absorbing and become moderate in quantity ; this is also taught by the lead-

ing pathologists of the day, but that it is erroneous, I have not the slightest doubt of; I have often heard it when the side was dilated more than an inch, when the heart was displaced, and what is rather curious, when there was not a trace of respiration. Is it possible that the voice of the healthy lung was transmitted through the fluid? The mistake concerning it arises from merely looking for the sound about the base of the scapula, whereas it is constantly changing its situation, and will often be heard above the part alluded to, and still more frequently below it, and on one occasion I was able to confirm the remark of Dr. Williams having heard it distinctly under the clavicle; as sounds are transmitted in every direction through fluids, the fact just stated will not appear strange; when the effusion is considerable, the character of the œgophony is, that the voice of the patient is pitched on a higher key than that issuing from the mouth, and it conveys strongly to the mind the impression, that the person was speaking through a brazen tube; it has been observed, that this sound is often like an echo, which may be accounted for by recollecting, that liquids convey sounds but slowly. As a general rule, œgophony will be better heard by the naked ear than by the stethoscope; it is however sometimes absent, and as has been before stated, it will not be heard in hydrothorax till the disease is far advanced, unless where the lung yields early to pressure, which I believe to be the exception to the general rule; on the whole then I must again repeat, that œgophony is of more value than what has been supposed, and is rarely absent when looked for in the proper cases. A good many of these remarks apply to the vibrations felt by the hand applied to the chest when the patient speaks; I have not yet met any case of hydrothorax, where this vibration was absent, whereas in acute effusions, it is always much lessened, and in many instances completely lost. On stripping a patient labouring under hydrothorax, some points are worthy of observation: thus Dr. Stokes has ascertained the important fact that protrusion of the intercostal muscles does not take place:

one reason for this is, that the fluid is seldom in such quantity as to cause the intercostals to yield, consequently the pressure will not be so great as in cases of empyema. There can, I think, be no doubt that the nature of the fluid effused, together with the accompanying inflammation, as mentioned by Dr. Stokes, plays a most important part in causing protrusion. I have not yet seen any case where the left diaphragm had yielded to pressure, nor could any to whom I applied give me any information on the point. The attachment of the pericardium to this part would appear to account for this, for any one who tries, will find that he cannot push down the diaphragm on the left as he can on the right side. When we recollect too, that in effusion into the left pleura, the heart is very early pushed to the right side, I think there are grounds for supposing that the left diaphragm seldom or ever yields: in addition to the non-displacement of the intercostals, may, I believe, be mentioned displacement of the heart. Dr. Hope gives one case where it is stated that this latter took place; but any one who reads the case will observe that there was a good deal of inflammation present. No matter how far advanced be the disease, the ribs may be still observed to be acting; their action, however, is limited, because they are kept in the position which they assume when a person in health makes a full inspiration. There can be no doubt that under these circumstances the chest is enlarged, although it is a difficult matter to ascertain it by actual admeasurement, both sides being equally dilated. A source of deception may arise from the oedematous state of the integuments; this elevation of the ribs gives a remarkable fulness to the chest, particularly in females.

On taking a review then of the different physical signs afforded by passive effusion into the pleura, it will be observed that they do not afford those decided marks which acute disease does, and though a good deal of my attention has been given to the subject, I have met several instances, where, at a first examination, I was at a loss to decide whether effusion existed or not.

These remarks apply to cases where the effusions were double, for when single the diagnosis is comparatively easy. I wish it, however, to be understood, that even when the effusion was single, the physical signs were such as have been detailed.

The general signs are in many cases very valuable, and indeed it often happens, owing to the state of the patient, that the practitioner is obliged to trust to them alone ; the respiration is often as many as 60 in the minute, and the range of the pulse is usually between 120 and 180, and this state may continue for days ; a similar state could not continue in acute disease beyond a few hours. Again, although the state of the breathing and pulse are such, the countenance is by no means so characteristic as might be supposed, nor is lividity as great as occurs in cases of acute bronchitis or pneumonia ; this latter symptom appears to bear a proportion to the quantity of lung itself which is engaged. It should have been stated before, that when there exists fluid in the pericardium, and the stethoscope is applied over the heart, its beats are extremely like those of the foetal heart ; it is under these circumstances more particularly, that any morbid sounds which may have existed are apt to disappear. This important fact was, I believe, first announced by Dr. Elliotson ; whether by accident or not I cannot say ; but I have met with several instances of late, where no morbid sounds existed before death, and yet *post mortem* examination showed the heart to be extensively diseased. I presume that in such cases even Dr. Hope would be at a loss for a diagnosis.

The position is very generally sitting, and it is astonishing how long a patient will maintain this posture. I saw a case lately in which serous effusions are likely to occur : the curious point about this patient is, that he lies easiest on his face and belly ; he suffers from dyspnoea in any other position. The slightest motion increases the sufferings of patients labouring under hydrothorax, and it is by no means uncommon for sudden death to take place from any slight exertion. The secretion from the kidneys is usually much lessened, also from the skin,

while at the same time diarrhoea is very apt to be present. Vomiting in connexion with thoracic disease would appear not to have met with the attention it deserves. In hooping cough, phthisis, hypertrophy of the heart, and hydrothorax, it is often a prominent and most distressing symptom. In some cases of passive effusion, mere nausea, accompanied by a feeling of the most deadly sickness, is complained of more than even the dyspnoea itself.*

Such are some of the physical and general signs of passive effusions into the pleura which have come under my observation, and which I have thought worthy the notice of the Society; taken singly they have little value, nor do I know any thoracic disease where it is so absolutely necessary to give due value to both sets of symptoms.

Having little to say on the treatment, I shall be as brief as possible: in the earlier periods it is very successful and that by the simplest means; thus mild purging combined with diuretics will completely cure the patient for the time being. Again, the symptoms may be more urgent, and may take on more of an inflammatory character, and then bleeding, either general or local, will be required. General bleeding is not well borne, at least to any great extent, by the cases under consideration; but I have found that so small a quantity as six ounces will often answer all our wishes. It is really curious to observe how the system will resist such remedies as mercury and digitalis, and even purgatives, till the small quantity of blood first stated, is drawn, and then all goes on smoothly.† It is not to be understood that this quantity will suit in every instance, but I can recommend it in cases where blood-letting might be thought to be absolutely injurious: it may be observed, that the danger which

* The nervous connexion of the lungs and stomach by means of the par vagum, will account for the close connexion that subsists between them.

† The fact stated by Majendie may account for this resistance, namely, that when in animals an artificial state of plethora of the vessels was kept up, absorption did not go on.

results from taking away too much blood is not owing so much to the depression of the system at the time, as to a sudden effusion of serum, a day or two after, into the pleura, or even the brain itself. When blood is drawn it usually presents a trace of buff, a weak coagulum, and a large quantity of serum. I have not found local bleeding very beneficial, except where parts of the lungs themselves were engaged, and indeed these are cases which require the utmost vigilance on the part of the medical man: thus a pneumonia or œdema which only affects one lobe, or even a part of it, will rapidly destroy life, as is exemplified in numerous cases detailed in Dr. Hope's work on diseases of the heart.

From some trials which I have made, in which it was necessary to have recourse to periodic bleedings, it appears extremely questionable whether local depletion is not more permanent and beneficial in its effects, when taken from distant parts of the body than from the immediate neighbourhood of the disease itself; thus, I believe, in cases of morbus cordis, the application of leeches to the hand or inner side of the arm, will give as much relief as if they were applied over the region of the heart itself; and every one knows, that for many headaches leeching the feet is quite a specific. I would not draw the attention of the Society to this point, but that it appears to me to be one of some consequence, more particularly in diseases of the heart, where it is necessary to have recourse to periodic bleedings, but where, though it relieved the patient for the time, it appeared to hurry on the morbid growth: in fact, an organ under these circumstances gets into the all powerful vortex of habit: these remarks apply to cases of chronic not acute disease. The most powerful agent, however, for the removal of passive affections is mercury; on this point Mr. Colles dwells particularly in his late highly practical work, and every one can call to mind cases where the most extraordinary alleviation of the symptoms took place, the moment the system became affected with mercury, but not till then; the best way of ex-

hibiting it is in small and frequently repeated doses, such as has been recommended by Dr. Law, in a paper lately published in the *Dublin Journal*. Sometimes the stomach will not bear mercury, and then inunction must be had recourse to: it will not affect the system, or at least very slowly, if the part rubbed be œdematous, for this reason it succeeds better to have it used on the inner side of the arm. In cases where mercury is exhibiting for the removal of passive effusions, and that this is going on rapidly, the medical man should be particularly on his guard. I saw two cases within this last year where death took place under very unexpected circumstances: one was under my own care; it was a slight case of anasarca with ascites, for which the patient was put on the usual combination of blue pill and squill: my surprise was very great on my third visit, to find the patient labouring under well-marked symptoms of effusion into the brain, under which she sank; the ascites had nearly disappeared. Purgatives are of the most undoubted benefit in the cases under consideration; indeed this might be inferred beforehand, for Nature herself almost constantly causes diarrhœa for the very purpose apparently of relieving the system. Medicines of this class act in two ways, either by removing the serous part of the blood, or else causing the expulsion of the flatus which is secreted in such enormous quantities in these cases as actually to cause more suffering than the fluid effusion itself. The more drastic purgatives will often suit best, contrary to what one might expect who judged from the appearance of the patient. When œdema of the lung exists, nature often tries to relieve herself by expectoration; the hint is of course not to be lost sight of, and medicines of the expectorant class are to be ordered; this state is, however, extremely difficult to remove, and in many cases is the more immediate cause of death.*

* When any morbid product is poured out into the lungs, it may be observed as a general rule that it will be removed very slowly if at all. Tubercle, serum, and lymph afford illustrations of this remark. It is generally thought that when a lung becomes solid from pneumonia, it may become clear in the course of two or three weeks: it usually requires as many months.

Counter-irritation on the chest, more particularly whatever rapidly produces a serous discharge from the part, will sometimes afford relief in these cases ; the new preparation of ascetic acid and cantharides, or something analogous to St. John Long's liniment, will answer best.* Diaphoretics may be used with great advantage, and there is no combination better than that of James's and Dover's powder ; the efficacy of this will be greatly increased by making the patient inhale the steam of warm water for twenty minutes at a time. This, though a simple, is a most powerful means of promoting diaphoresis, and may be used in many other diseases besides the one under consideration. It need scarcely be observed that the patient must be kept in bed ; by continuing this plan for twenty-four or forty-eight hours, it is astonishing what relief may be given, and that without weakening the system in the same proportion. The drinks for the patient should be in moderate quantity, particularly after diaphoresis has commenced, for if not the waste from the skin will be supplied from the stomach in place of from the serous cavities. Diuretics are a class of remedies in very general use, but they are by no means certain in their effects ; sometimes they will answer well, at other times they appear totally inert ; this will even occur in the same patient at different times : the most valuable are the preparations of potash, digitalis, blue pill, squill, and probably iodine. In one patient under my care, the use of a small quantity of new made whiskey cured an ascites three different times.

There is a point to be borne in mind in the treatment of passive effusions, it is to vary the treatment each time of attack : thus, should bleeding and purging be made use of at one time, it will be better the succeeding attack to have recourse to mercury, and the third one to diaphoretics. If the patient's life be to be prolonged at all, this, I believe, is the best plan to pursue. When any of the means recorded above are successful, it is

* When blisters are used they appear to give most relief applied between the shoulders.

always advisable to follow them up by a course of mild tonics, by change of scene, and above all by the use of an issue as large as the constitution will bear. Thus in favourable cases, the life of the patient may be prolonged for years; too often, however, the medical man has to regret the inefficiency of his art, while he sees the disease, in spite of his best directed efforts, making steady progress; and then succeeds the last and most distressing stage of all; distressing to the medical man, because he can do little more than look on, and doubly so to the patient, because his suffering is in general very prolonged. At this period puncturing the lower limbs may be useful: should the patient remain in bed, there should always be something fixed to the top of it, by which they may be able to move with the least exertion; in some cases sitting in an easy chair will give great relief, as gravitation acts on the fluids, and thus relieves the dyspnœa. I have tried opiates in every form, and found them useless or even injurious: there is nothing, however, from which so much advantage will be derived as from the exhibition of stimulants. Camphor mixture with aromatic spirit of ammonia, or small quantities of brandy or wine, given at short intervals, will render the patient's last moments comparatively easy.

ART. VIII.—*An Essay upon the original or congenital Luxations of the upper Extremity of the Humerus.* By ROBERT WILLIAM SMITH, A.M., M.R.I.A., Lecturer on Surgery at the Richmond Hospital School of Medicine, Surgeon to the Talbot Dispensary, House of Industry, &c. &c.

ALTHOUGH the contributions made of late years, to our knowledge of the injuries and affections of the bones, which form the articulation of the shoulder, have been both numerous and varied, it nevertheless appears to me, after much research, that there is still one condition of this joint that has hitherto

eluded observation, namely, the original or congenital luxations of the head of the humerus. And yet the subject of congenital displacement has been by no means neglected: the Baron Dupuytren, in the second volume of the *Répertoire Général D'Anatomie*, &c. has given an admirable description of the congenital luxation of the head of the femur; and in the ninth part of Todd's *Cyclopædia*, Mr. Adams has given an accurate account of the congenital luxations of the bones of the elbow joint; but the analogous condition of the shoulder joint has not, I believe, been as yet described. It now falls to my lot to tread this unbeaten path; and to be enabled thus to make a positive addition to our knowledge of the abnormal states of the bones of the shoulder is a source of some gratification; while at the same time I would say, in the words of the illustrious Surgeon of the *Hôtel Dieu*, “*Toutefois c'est moins le triste avantage, d'ajouter une infirmité nouvelle au catalogue, déjà trop nombreux, des infirmités humaines, que me porte à donner une courte description de ce déplacement, que le désir d'éviter aux gens de l'art de graves erreurs de jugement, et aux malades des traitemens aussi inutiles qu'ils sont rigoureux.*”

I have observed within the last few years, and ascertained by *post mortem* examination, the existence of two varieties of congenital luxation of the head of the humerus, and I am of opinion that these deviations from the normal state of the bones of the shoulder joint, (though existing from the earliest period of life,) may not develop themselves, so as to attract attention in a decided manner for many years: this position, applied to the ileo-femoral articulation, we at once admit. Dupuytren has, with much clearness, shown that the original luxation of the head of the femur may pass unnoticed in the infant, or if observed be ascribed to a cause different from the true one; but when the pelvis begins to increase in breadth, and the child is subjected to longer and more fatiguing exertions, then the characteristic features of the original malformation become apparent, and when the pelvis is fully developed, and all parts

have completed their growth, and are called into action, the nature of the affection can no longer be doubted or mistaken ; the same observations apply, though not perhaps with equal force, to the analogous condition of the shoulder joint. In early life, before the bones have reached their due developement, before the muscles which play upon the articulation are called to their full exertion, the outward signs of the deformity may possibly escape observation ; but when the bones of the shoulder have reached maturity, when the osseous prominences which overhang the joint stand out in full relief, and particularly when the muscles which act upon the articulation and upon the arm, are called upon to execute their office, then is it that the characteristic features of the original luxation become strikingly apparent.

The two varieties of congenital dislocation of the head of the humerus, which have fallen under my observation, may be termed *subcoracoid* and *subacromial* ; of the former species I have seen three examples, of the latter but one.

CASE I.—*Congenital Subcoracoid Luxation.*

The first case of original luxation of the head of the humerus which came under my observation, was that of Alexander Steele, about twenty years of age ; he has been an inmate of the House of Industry, Dublin, for the last four years. He presents an example of congenital displacement of the left shoulder joint,* and upon the same side a specimen of that variety of club foot, termed *pes equinus* : he does not remember having ever met with any injury of the shoulder : the present condition of the joint has existed from the earliest period of his recollection. The muscles of the shoulder and arm are wasted to a remarkable degree, the circumference of the centre of the arm being three inches and a half less than that of the opposite side ; the atrophy has likewise extended to the muscles which pass from the side of the chest to the humerus and scapula, so much so, that the

* Plate I. Fig. 1.

left side of the thorax, measured from the centre of the sternum to a corresponding point posteriorly, is one inch and a half less in circumference than the opposite side of the chest; the trapezius muscle, though not so fully developed as its fellow, still is not wasted to such a degree as the other muscles of the limb: it is the principal muscle which moves the scapula, indeed it appears to be almost the only one capable of acting upon that bone; the left humerus is nearly half an inch shorter than the right.

The motions of the arm are extremely limited; as it hangs by his side, he can merely swing it backwards and forwards, and even in this motion the scapula largely participates, he cannot abduct it in the least, or raise it in any direction, neither can it be abducted by another so far as to bring it to the horizontal line; in the scapula, however, there is a compensatory motion that is very striking, it moves with every motion of the arm, or perhaps it would be more correct to say, that the arm follows every motion of the scapula, as the muscles of the former appear to be quite passive, while the trapezius acts strongly upon the latter; indeed so great is the mobility of the scapula, and so relaxed are its muscles, that when both elbows are pressed upwards simultaneously and with equal force, the left shoulder can be made to rise between three and four inches above the right. Although the muscles of the forearm are not wasted to such a degree as those of the arm, still great difficulty (owing apparently to the atrophied condition of the biceps) is experienced in flexing the elbow joint, so as to bring the forearm even to a right angle with the arm; and the means by which the patient does effect it are remarkable; the elevation is not performed gradually, but with a sudden jerk, in which the scapula is also raised considerably, and the arm applied to the side; and sometimes the body is also inclined to the opposite side, and the elbow supported upon the crest of the ileum. The head of the humerus can easily be pressed inwards, so as to allow of the finger being placed in the outer part of the glenoid cavity, and when the bone is pressed outwards towards the acromion, the remain-

der of the socket can be felt, situated apparently upon a plane posterior to the outer portion; the head of the humerus presents nearly its natural form, as far as can be ascertained by an external examination; the left acromio-clavicular articulation appears to enjoy an unusual degree of motion.

The shoulder has not the rounded form which is natural to it, yet still does not present the flattened appearance which marks the accidental luxation of this joint. The acromion process is prominent, and when the arm hangs by the side, the head of the humerus, distinct and prominent, is so far removed from the under surface of the acromion, that the thumb can easily be placed between them; by raising the elbow this appearance is altogether removed, and the joint assumes more of its natural form, still, however, wanting the rotundity and plumpness derived from a proper development of its muscles.

CASE II.—*Congenital Subcoracoid Luxation.*

Upon the morning of the 3rd of April, 1839, I visited Mr. H—— æt. 20, whose left shoulder joint presents an example of congenital dislocation under the coracoid process; the appearances are so precisely similar to those detailed in the preceding case, that a full description of them would be useless repetition; it will be sufficient to enumerate a few of the leading characters of the deformity. As the arm hangs by the side, the head of the humerus lies under the coracoid process, and the outer part of the glenoid cavity can be felt beneath the prominent acromion; when the elbow is drawn forwards across the chest, the head of the humerus passes backwards beneath the acromion, vacating completely the abnormal portion of the socket, which can then be plainly felt; the muscles of the shoulder and arm are much wasted, but as in the case of Steele, the trapezius appears to be as well developed as its fellow of the opposite side; the motions of the arm are very limited; he cannot raise or abduct it, and the motions backwards and forwards are almost the only ones enjoyed, even these are not performed without corresponding movements of the scapula; the deformity

has existed since his birth, but became more obvious and striking as he increased in age and stature. For the opportunity of examining this case, I am indebted to Mr. Adams.

CASE III.—*Symmetrical Subcoracoid Luxations, congenital.*

The third case furnishes an example of congenital luxation of the shoulder occurring on *both* sides; the individual from whom the specimens were taken was a female æt. 29, who had been for many years a patient in the lunatic department of the House of Industry; she died of chronic inflammation of the membranes of the brain, and I was called upon to make the *post mortem* examination. When I entered the room, my attention was at once attracted by the singular appearance which the shoulder joints presented: the deviations from the natural state were most remarkable upon the left side; the muscles were wasted, the roundness of the shoulder gone, the acromion process prominent, and the head of the humerus lay immediately under the coracoid process, the point of which was in a line with the bicipital groove of the humerus; the elbow projected a little from the side, but could readily be approximated to it; the right shoulder presented similar appearances, but in a slighter degree; the head of the humerus occupied more nearly its natural situation, but still the flattened form of the shoulder, the wasted muscles, and prominent acromion, all indicated, that the condition of joint was similar to that of its fellow.

From the external appearance of the joints, it was difficult to say what was the exact nature of the alterations from the natural state which had taken place, but still I was clearly of opinion, that they had not been the result of accidental violence; they did not resemble the appearances presented in cases of luxation, either into the axilla, or forwards beneath the pectoral muscle, and as there was no outward sign or trace of disease, I ventured to express my opinion, that the appearances in question were the consequence of an original malformation of the glenoid cavity of the scapulæ. Let us now see what anatomical evidence there was to support this idea.

Upon the left side there was scarcely any vestige of the natural glenoid cavity, but directly beneath the under surface of the coracoid process,* and formed partly upon the costal surface of the scapula, and partly upon its axillary margin, there was a well formed socket, about an inch and a half in its vertical direction, and of the same extent transversely; it extended to the under surface of the coracoid process, from which the head of the humerus was merely separated by the capsule; there was no interval or space, (as there is in the natural condition of the bone) between the summit of the abnormal socket, and the process just named; around this socket the glenoid ligament, perfect and well formed, was continued from the undeveloped glenoid cavity, from the apex of which sprung the tendon of the biceps, in every respect natural; the capsular ligament was perfect throughout.

The head of the humerus deviated remarkably from its natural spherical form; it presented an oval shape, the long axis corresponding with the axis of the humerus;† the oval form was principally due to the deficiency of its posterior part, and there existed between the greater tubercle and the margin of the head of the bone where the investing cartilage terminated, a broad, shallow depression or sulcus, corresponding to the elevation which distinguished the normal from the abnormal portion of the glenoid cavity; the shaft of the humerus was small and seemingly atrophied; the position of the head of the bone, with respect to the coracoid process and acromion, varied according as the motion of rotation inwards or outwards was imparted to the arm. In the natural condition of the parts, these motions produce but little change in the relative situation of the head of the humerus, but in the case before us, during rotation outwards, it passed towards the acromion process, and occupied the small portion that existed of the natural glenoid cavity,

* Plate I. Fig. 5.

† Plate I. Fig. 3.

while rotation inwards threw the head of the bone altogether beneath the coracoid process, so that the finger could be easily sunk into the outer portion of the socket.

Upon the right side, the condition of the bones was somewhat different, though the characteristic features of the deformity were similar; the deficiency of the glenoid cavity was confined to its inner border, which, to the extent of an inch, from above downwards, was entirely wanting, so that the head of the humerus had passed inwards, though not to such an extent as in the opposite joint;* the internal boundary of the socket was formed by a ridge of bone, which passed downwards from the under surface of the coracoid process; the tendon of the biceps and the capsular ligament were perfect; the oval form of the head of the humerus was more remarkable here than upon the left side, and the deficiency of its posterior part more striking.†

But it will be asked, why do I consider these cases to present examples of congenital malformation, rather than of the consequence of disease or accident? Many circumstances and much reflection have induced me to form this opinion. With respect to the first case, that of Steele, it is easy to prove, that in his shoulder joint we have an undoubted specimen of congenital luxation; the boy who is the subject of it never met with any accident, never received any injury of the joint, and it is well known that the condition of the joint which I have described has existed from his infancy, and that the articulation has never been the seat of pain, inflammatory action, or disease of any description: moreover the co-existence of a pes equinus would seem in some measure to confirm my opinion as to the nature of the affection of the shoulder.

Now, let any person compare the cases of Steele, and of Mr. H——, with the appearances described in the third case; and, I

* Plate I. Fig. 4.

† Plate I. Fig. 2.

think, he cannot avoid the admission, that whatever might be the nature of the affection, it was similar in all. We need not, however, have recourse to this mode of reasoning, for the third case bears in itself abundant evidence to prove the early origin of the deformity in question ; *the situation of the head of the humerus* (as already described) goes a great length, in my mind, to disprove the idea of accidental luxation. Let any person examine the specimens of unreduced luxation of the shoulder joint, that are preserved in the different pathological museums to which he may have access, and compare them with the description and the plate which I have given, and he must, I think, at once see that they bear to each other no resemblance: he will see that in the dislocation downwards, as well as in that beneath the pectoral muscle, the head of the humerus is very differently placed. The circumstance also of *the same appearances and deformity existing in each shoulder joint*, is, in my opinion, an almost decisive proof that the defects were congenital, and not produced by violence; if we add to this, *the existence of a glenoid ligament perfect and natural in every respect, and the integrity of the tendon of the biceps muscle*, (which disappears very early in cases of disease affecting the articulation,) it will, I imagine, be readily admitted, that disease had no share in producing the alteration in question. The form of the head of the humerus (nearly similar on each side) is peculiar, and totally different from any change that I have ever seen produced in it by disease, or in cases of unreduced luxations.

The symptoms and appearances which have been described by more than one writer, as belonging to an accident termed *partial luxation of the head of the os humeri*, resemble very much those which present themselves in cases of *congenital dislocation* of the same bone, and I feel convinced that examples of the latter have been published under the title of partial luxation; and were it not foreign to the subject of my communication, I could easily show, that the same appellation has been

given to a condition of the joint which is obviously the consequence of rheumatic disease.*

In the Medico-chirurgical Transactions, vol. xx. some observations on Atrophy of Bone, have been published by Mr. Curling, Assistant Surgeon to the London Hospital. At page 338, he details the following case as being an uncommon variety of atrophy, and of considerable interest in surgical pathology.

“CASE.—*Partial Dislocation of the Os Humeri forward beneath the Pectoral Muscle—Atrophy of the Head of the Bone, and inner Edge of the Glenoid Cavity of the Scapula.*

“A German labourer, æt. 27, had applied at the London Hospital as often as fourteen or fifteen times, on account of repeated dislocations of the right humerus beneath the pectoral muscle. The bone had been generally replaced without difficulty, and on several other occasions had returned without surgical assistance. Various mechanical contrivances were resorted to in order to confine the bone to its natural position, but none were of any service, and the bone was so often displaced by the least muscular exertion that he was unable to continue at work. On the last occasion that he applied, in August, 1835, the dressers experienced great difficulty, and although they employed the pullies, were unable to reduce the dislocation. As he was sitting, however in a chair, somewhat exhausted by the efforts that had been made, the bone suddenly slipped into its place. About a fortnight afterwards, he was seized with convulsive fits, became insensible, and died in two days.

“On examining the shoulder the muscles were found healthy and well developed. There was a false socket beneath the coracoid process, at the inner edge of the glenoid cavity, in front of the neck of the scapula, and bounded by the tendon of the sub-

* Vide Sir A. Cooper on Dislocations, second edition, page 448, and Plate XXI. Fig. 2; and Mr. Adams' commentaries on this case, in the Athenæum for Sept. 10, 1836, (abstract of a paper read before the Medical section of the British Association at Bristol.)

scapular muscle, in which there was considerable bony deposit. The head of the humerus was greatly altered in shape, being of an oval form, and its long diameter being in a line with the axis of the bone. About one-fourth of it, together with the connecting cartilage, had been removed so evenly, that the head appeared as if a section had been made of it. The inner edge of the glenoid cavity, with its cartilage, was also in great part removed. The portions of bone thus exposed were even and slightly polished. The capsular ligaments were smooth internally, apparently enlarged, and loose, and the tendons of the two heads of the biceps natural."

Upon this, in my opinion, well marked case of congenital luxation, Mr. Curling observes, "This remarkable atrophy was no doubt occasioned by the friction to which the head of the humerus had been subjected in its play from the natural to the false socket, and operated as a bar to the bone being subsequently retained in its right situation during the motion of the joint. A like situation of the head of the os humeri is related in Sir A. Cooper's work on dislocations, to have been found in a subject brought for dissection to St. Thomas's Hospital, with an unreduced dislocation of this bone. No history was attached to it, so that the change is unaccounted for. Mr. Stanley has shown me three similar preparations contained in the Museum of St. Bartholomew's Hospital, in which, however, the atrophy is not so far advanced. They were also taken from subjects in the dissecting room, and are without any history. In these, as in the preparation figured in Sir A. Cooper's work, there is a new glenoid cavity beneath the coracoid process."

Now I look upon it, that neither in the history or *post mortem* examination of this case, nor in the observations which follow it, is there any evidence to justify us in considering it as one of partial dislocation. On the contrary, the repeated displacement of the bone by the least muscular exertion, its return on several occasions without surgical assistance, the failure of all mechanical contrivances to confine it to its natural position, the situation

of the abnormal socket, and the peculiar form of the head of the bone, all these circumstances induce me to incline to the opinion, that there was in this case a congenital defect, an arrest of development of the inner portion of the glenoid cavity. The account given by Mr. Curling corresponds so accurately with what I have myself observed and described above in cases where the deformity was known to have existed from infancy, and where no injury had ever been received, that I cannot avoid coming to the conclusion I have mentioned. If there were not an original malformation, why should the dislocation, once fairly reduced, have recurred at all, or been reproduced by the slightest muscular exertion, in a case where there was no fracture, no paralysis, for we are told the muscles were found healthy, and well developed. Of the previous history of the individual we have not been informed, nor do we know, whether in early life any abnormal appearance of the shoulder joint had been noticed; at all events, as I have already observed, there is every reason to suppose, that many congenital displacements may for a long period pass unnoticed, and only attract decided attention when the individual is compelled to exert the limb, and bring its muscles into action. With respect to the preparations alluded to by Mr. Curling, as contained in the Museum of St. Bartholomew's Hospital, I may mention that I have seen and closely examined them, but they have not convinced me that any such accident as partial dislocation occurs, or can occur, unless where there exists in the glenoid cavity some arrest of development or fracture.

CASE IV.—*Symmetrical Sub-acromial Luxations—Congenital.*

A woman named Judith Tracy Doyle, æt. 42, a lunatic, died upon the 8th of last February, in the House of Industry; she had been a patient in the lunatic department of the institution for fifteen years; she was subject to severe epileptic convulsions, in one of which she died. Upon the day following her death I made an examination of the body: the brain presented the appearances so frequently observed in idiots, and so

accurately delineated by Cruveilheir,* the convolutions of the cerebrum were small and wasted, and the anterior lobes were separated from the frontal bone by an interval of at least three quarters of an inch. When the clothes were removed from the body, I noticed, (as did also Mr. Brabazon, who assisted in making the examination,) a very singular, and to me, at least, a most unusual appearance of the left shoulder joint, which, as the body was placed, first caught my eye; the head of the humerus seemed to have been dislocated upon the dorsum of the scapula; but finding that the opposite joint presented a precisely similar appearance, and reflecting upon the very rare occurrence of such an accident, I abandoned this idea, and expressed my opinion at the time, that we had got an example of double *congenital* luxation of the head of the humerus upon the dorsum of the scapula: so perfectly alike were the shoulders, that the description of one will be sufficient.†

The coracoid process formed a very remarkable projection, and the acromion was unusually prominent, but still the glenoid cavity could not be felt beneath it; the head of the humerus formed a distinct tumour towards the dorsal surface of the scapula, beneath and behind the summit of the acromion, and closely applied to its inferior surface: the arm was not removed from the side, and the forearm was rotated inwards. Upon examining the interior of the joint, I found that there was no trace of a glenoid cavity in the usual situation, but there was a well-formed socket surrounded by a glenoid ligament, upon the outer surface of the neck of the scapula:‡ broader above than below, and reaching upwards close to the under surface of the acromion; the tendon of the biceps, perfect throughout, adhered to the upper and inner part of its circumference: the aspect of this abnormal cavity was directed forwards and outwards. The head of the humerus§ presented the same oval

* Livraison v. and viii.

† Plate II. Fig. 1.

‡ Plate II. Figs. 4 and 5.

§ Plate II. Figs. 2 and 3.

form, already described as occurring in case, No. III., with this difference, however, that in the latter case, as already described, the oval form was due to the deficiency of the posterior part of the head, while in the case of Doyle, it was the anterior portion which was wanting; the lesser tubercle formed a very remarkable projection, it was elongated and curved, so as to bear considerable resemblance to the coracoid process of the scapula. A reference to the accompanying plate will, however, give a much better idea of the appearances than any description of mine. I should think it scarcely necessary to occupy the time of the reader in attempting to prove that these joints presented examples of congenital luxations of the head of the humerus upon the dorsum of the scapula: the total want of a glenoid cavity in the natural situation, the perfect resemblance between the two abnormal sockets, in form, size, and position, the integrity of the tendons and ligaments, the singular form of the head of the humerus, all confirm this idea. I might also add the very rare occurrence of such an accident as dislocation upon the dorsum of the scapula; few, comparatively speaking, have seen it, and who has witnessed its occurrence in both shoulders of the same person? Sir A. Cooper mentions that he had met with only two examples of luxation backwards of the humerus in the course of eight and thirty years; and of such rare occurrence did the Baron Boyer think the injury, that to admit of its taking place, he supposed there must exist some malformation of the articular surface; and in a note appended to page 178, vol. iv. of his surgical works, he says, “*Nous avons eu occasion d’observer sur un cadavre une inclinaison singulière de la cavité glénoïde de l’omoplate en arrière. Cette surface articulaire présentait en même temps un prolongement remarquable du même côté; aussi l’humérus passait-il facilement dans la région sous-épineuse. Un malade dont M. Fizeau a publié l’histoire*, et*

* Journal de Médecine Chirurgie, etc. par MM. Corvisart, Leroux, et Boyer, tome x. p. 386.

sur lequel nous avons observé, conjointement avec lui, une luxation de l'humerus en dehors ou en arriere, presentait cette circonstance remarquable, que la luxation se reproduisait avec une grande facilité. Cette particularité n'est-elle pas etonnante dans une maladie qui est très rare, et qui ne peut survenir que tres difficilement : et n'est-il pas probable que les surfaces articulaires, et notamment celle de l'omoplate, presentaient quelques dispositions contre nature, qui favorisaient le déplacement de l'humerus ?”

This, as far as I have been able to ascertain, is the only allusion made by any writer to the deficiency of a portion of the glenoid cavity, as a cause of luxation of the head of the humerus.

While in London last summer, I visited, among others, the Museum of King's College, where Professor Todd drew my attention to a scapula, upon the dorsal surface of which, beneath the root of the acromion process, there was a well-formed socket for the head of the humerus, and closely resembling those which I have described in the case of Doyle, and which are delineated in Plate II. Figs. 4 and 5 ; the history connected with the preparation was unknown, but from what I have since seen, I feel convinced that it was an original malformation.

Whether the dislocation upon the dorsum of the scapula be the result of accident, or the consequence of an original malformation of the glenoid cavity, the external characters of the affection are, as we might expect, similar in both cases ; this will be apparent from the following brief examination of the appearances which I observed in the case of Judith Doyle. The transverse diameter of the shoulder, measured from the centre of the clavicle to the head of the humerus, was obviously greater than natural ; the exact amount of increase, of course could not in this case be ascertained, as both shoulders were similarly altered. Still, however, the distance between the two points that I have mentioned struck me at once as being greater than natural : indeed it is a necessary consequence of the altered position of the head of the humerus. The acromion process did

not project so much as it does in the other luxations of the shoulder, neither was the rounded form of the latter as much altered; the flattening was confined altogether to the anterior part of the joint; and what was lost in this direction was gained externally and posteriorly, where a round, firm tumour indicated plainly the situation of the head of the bone. In the other luxations of the shoulder there is no remarkable projection of the coracoid process, it is in a measure obscured by the head of the humerus; but in the case we are considering, nothing could be more striking than the prominence formed by that process, owing, no doubt, to the removal of the head of the humerus from its vicinity. This is a symptom belonging to dislocation upon the dorsum of the scapula, that appears to have escaped the notice of British surgeons, although more than one of the continental writers have enumerated it; it was, I believe, first mentioned by Manne of Toulon,* afterwards by Sedillot, and very lately it has been much dwelt upon by Lepelletier. The arm was directed obliquely downwards and inwards, the elbow approximated to the side, and the hand and forearm in a state of pronation.

Since the preceding pages went to press, I have been favoured by my friend Surgeon Wilde, with a very detailed account of a case of congenital luxation beneath the coracoid process, upon the right side, which has been for some time under his own care. The patient is a young lady thirteen years of age: the deformity was first noticed at the age of three months, when the arm was observed to hang in an unnatural position by the side, and the child appeared unable to raise it to a right angle with the body. From that period up to the present time, the deformity became every year more evident, and it now presents all the characters which I have described in the preceding pages as indicating congenital luxations of the shoulder. And this is a case which has not been neglected, having been under

* *Traite Elementaire des Maladies des Os.*

treatment from the time when the deformity was first noticed ; but all means have proved useless, all mechanical contrivances have failed to retain the head of the bone in its natural position. The child did not receive any injury of the joint ; and the circumstance of the deformity having escaped observation for the space of three months will not appear surprising, when we consider, that at this early period of life, the rotundity and plumpness of the shoulder are preserved by the great abundance of adipose which surrounds the joint.

Such is a brief but accurate statement of the facts which I have observed relating to congenital luxations of the articulation of the shoulder. Our knowledge of these remarkable affections must, of course, be considered as still incomplete ; we want a more extended series of observations ; a larger number of cases must be grouped together, to enable us to give a full and complete history of congenital dislocations of the shoulder. Until these objects are accomplished, I trust that the preceding observations may not be considered destitute of interest.

Χρῶ τοῖς εἰρημένοις, ἡ ζήτει βελτίω τούτων.

EXPLANATION OF PLATES.

PLATE I.

Fig. 1. View of Steele's shoulder.

Fig. 2. Portion of the right humerus, shewing the altered form of the head of the bone in the third case detailed.

Fig. 3. Portion of the left humerus, shewing a similar alteration.

Fig. 4. Portion of the right scapula.

f Tendon of the biceps muscle.

g Deficiency of the inner edge of the glenoid cavity.

Fig. 5. Portion of left scapula.

f Tendon of the biceps muscle.

g Abnormal socket, directly under the coracoid process.

PLATE II.

Fig. 1. View of the external appearance of the shoulder joints, in the case of Doyle.

a Acromion process.

b Coracoid process.

c Head of the humerus.

Fig. 2. Portion of the left humerus, shewing the alteration in the form of the head of the bone, and the enlargement of the lesser tubercle.

Fig. 3. Portion of the right humerus, shewing similar changes.

Fig. 4. Left scapula.

d Tendon of the biceps muscle.

e Abnormal socket, placed under the posterior part of the acromion process, upon the outer surface of the neck of the scapula.

Fig. 5. Right scapula.

d Tendon of the biceps muscle.

e Abnormal socket.

BIBLIOGRAPHIC NOTICES.

Über Schleim und Eiterbildung und ihr Verhältniss zur Oberhaut. Von Dr. HENLE.

On the Formation of Mucus and Pus, and their Relations to the Epithelium and Epidermis. By Dr. HENLE. Berlin, 1838.

THE microscope, which in Germany has already been extensively employed in making anatomical and physiological discoveries, has in the work before us been engaged in developing the hitherto secret course of some pathological processes, and in explaining and distinguishing some remarkable products. Our author states at the outset, that pus and mucus, when the latter was secreted in abundance, or diseased, were not to be distinguished by the microscope from one another, although different kinds of mucus were.

Epidermis and epithelium are by him regarded as different names for the same tissue; his description we will give in his own words:

“It is a simple or multiplied layer of cells which covers all the exposed surfaces of the body, all the inner surfaces of its canals and passages, and all the walls of its cavities; thence it is to be found on the external skin, and upon all mucous membranes, from which it enters into the ducts from the glands, and into the finest canals of the glands, on the smooth surface of the serous coats, on the inner wall of the heart and the vessels, even to their finest ramifications. The cells always contain a more or less flat, round, or oval kernel, which again contains one or two still smaller granules. This kernel with its granules always possesses the same form, and the different kinds of epithelium depend on the different development of the pellucid cells. Of these I have distinguished three forms.

“1st. The cells in general have a contour similar to the kernel, only wider in a greater or less degree, sometimes lying close to the kernel, and sometimes forming a wide bladder around it. This form I have denominated Plaster-epithelium. With such the cutis is fur-

nished, as are the greater number of the serous membranes, the vessels and the canals of the glands, with the exception of the testicle. Such is also to be found upon the mucous membranes in the neighbourhood of their external apertures, in the digestive canal as far as the pylorus, in the vagina, on the under half of the neck of the uterus, and the urethra in the female; lastly, upon the ball of the eye, the cornea not being excepted.

“2nd. The cells have a conical figure, with the apex turned towards the mucous membrane, and the base towards the free upper surface. They stand like vessels close to one another, and the kernel forms a projection in the middle of their long axis; this is the cylindrical epithelium which lines the entire of the digestive canal from the stomach down, which enters into the ducts of most of the glands, into the gall bladder, lastly, into the whole virile apparatus with the exception of the vesiculæ seminales, and the cells of the prostate.

“3rd. The ciliary epithelium consists of perfectly similar cylindrical shaped bodies, which are only to be distinguished from the others by having ciliæ on their broad or free end; they are particularly remarkable in the respiratory organs, and the internal organs of generation in the female, commencing at the upper part of the cervix uteri, also in the ventricles of the brain, and, as I lately discovered, on the inner surface of the eyelids, and in the lachrymal sac and ducts.

“The epithelium on the bladder may be regarded as an intermediate form between the plaster and cylinder epithelium, as the cells are stretched and stand perpendicular on the mucous membrane, but are irregular in their shapes.”

The cells of the epithelium are described as forming either single or numerous layers. In the single are to be found the cylindrical and the ciliary forms in all parts, and the plaster form on the greater number of the serous membranes, the inner wall of the vessels, canals of the glands, and on the fine mucous membrane of the cavity of the tympanum. On all the other mucous membranes, and on the external skin, the cells lie in layers one over another; and these increase according to the pressure or violence to which they may be exposed, as is evident in the cuticle. In the lowest layer, or the one lying next to the skin, the kernels are of a yellowish red colour, and have a distant similitude to the corpuscles in the blood: the cell here embraces the kernel so closely, that it often appears to be wanting, and perhaps it is sometimes deficient. More externally the kernel becomes more granular, paler, and larger, but the cell which contains it grows much faster than it: still more externally the kernel and cell become flatter, till at last they appear like exceedingly fine scales. The form of the cells, at first round, becomes by the pressure of other cells around, polygonal, and in the ultimate scales irregular. In the external layers of the epidermis, the kernel is distinguished with difficulty, and the

little leaves or scales adhere so closely to one another, that it requires very nice dissection to make it apparent; in fact, it could not be done but for the gradual transition which we see constantly going on. Thus these cellules become external then dry and hard, and form a kind of rind, just as the hardened cellular tissue of plants forms their bark.

From these anatomical data, our author infers physiologically that the epithelium and epidermis cannot be regarded as the unorganized product of secretion, or, in other words, as hardened mucus, although it is evident that their nutrition depends on the vascular tissue situated beneath them, on the changes of which they are so clearly dependent. From the facts adduced, it is still less likely that the cells should develop themselves in an independent manner, as they not only increase in volume, which possibly might be ascribed to a physical absorption, but the little body contained within them goes through its regular stages. The chemical quality of the cells is also changed; in this development the deep layers being dissolvable in acetic acid, whilst the superficial layers as well of the plaster epithelium as of the epidermis, are not affected by it.

The epidermis and epithelium stand in a double relation to the secretions of the skin and glands. They permit fluids to pass both from without inwardly, and *vice versa*, whilst they themselves remain perfectly passive.

“But in regard to the secretions, I have long suspected that they play a very active part, because their cells contain manifestly drops of fat in those secreting organs whose secretions contain a remarkable mingling of fat. An observation which I have made lately changes this suspicion almost to certainty, viz. that the liver internally consists of the cells described throughout its whole parenchyma, and that the kernel of those cells is almost constant in size of a diameter of 0,0030 to 0,0033”, and is generally round, although sometimes flattened by pressure, whilst the cells themselves are polygonal, mostly quadrangular or pentangular, with a diameter of 0,007”.”

In drawing the parallel of similitude between the epithelium and epidermis, our author says:

“It is well known that in proportion as the cuticle is reproduced from beneath, its superficial layer is cast off, and this ordinarily is accomplished in the form of little scales. If any portion of a healthy limb be bandaged closely for a period of some weeks, it is quite astonishing what a quantity of these scales will be found on opening it. By pressure the formation of new cells on the epidermis will be increased, and either welks or corns will be produced. Also similar scaling off of the mucous membrane is to be found in particular places in a state of health, which takes place constantly and regularly, with

this difference, that the particles thrown off do not present the appearance of dry scales as those of the epidermis, but as a viscid membrane always saturated with much moisture, which forms the overlaying coat of all mucous membranes, so far as they can be reached from externally. The surface of the eye-ball, the entrance to the nose, mouth, and pharynx, the œsophagus, the vagina, are always covered with this mucous layer, which can easily be scraped or wiped off, and which all cleanly persons are anxious to remove as much as possible."

M. Henle then proceeds to show, how Nature in every instance provides means for the removal of this coat of mucus lying over the epithelium, and compares the secretion of the mucous glands to that of the respiratory glands of the skin, by means of both of which the layers of epithelium and epidermis which are loosened, are finally removed or dissolved. Great difference is to be found in the powers of regeneration of the epithelium, that of the serous sacs possessing the least.

"The cylinder and ciliary epithelium are only cast off under peculiar circumstances, either by disease, or at particular periods, in the healthy body."

Thus the whole intestinal canal of the infant loses its epithelium the first week after birth, and large flocculent patches of it are discoverable amongst the discharged fæces; the stomach casts off its external coat of epithelium during digestion, the same occurs in the female organs of generation after delivery, menstruation, &c.; "after the latter, the fragments of epithelium are distinctly to be found in the discharge which succeeds it."

Thus having considered mucus as produced in a state of health, M. Henle proposes that it should be called by the name which it really merits, "cast off epithelium." He next proceeds to the comparison of those membranes under various circumstances of disease in a very ingenious manner, showing that the purulent products of both are similar, as well as the disposition and course of action which gives rise to them. Mucus and pus are distinctly stated to be similar, that is, each consisting in a multitude of these little molecular bodies, with their envelopes, floating in greater or smaller numbers in a more or less inspissated fluid.

"The little mucous bodies (Schleimkörnchen) which remain after the removal of the epithelium on the mucous membrane where effusion has existed, are not distinguishable by the microscope from the little bodies which are found in the serum of blisters, and bullæ of the epidermis, in the pus of pustules, and in the watery exuda-

tions from divided portions of skin, the little bodies in the latter being long known as pus molecules; these are also to be found in the same stages of development as the little mucous bodies.

“ If the cuticle be cut just when a blister is beginning to rise, perfectly formed pus molecules will flow out with the clear fluid, the kernel of which, when exposed to the action of acetic acid, splits, but also other bodies more like to the cells of the deep layers of the epidermis, the kernels of which are not affected by acid, or only slightly chapped.

“ The pus molecules are in layers on the surface of the inflamed skin, similar to the manner in which the mucus molecules are placed on their appropriate membrane, and are removed in a similar manner by an exudation of moisture: their quantity is very variable compared with the fluid containing them.”

The comparison drawn between the exanthemata of the external surfaces and the catarrh of the internal, is one of the most striking contained in this very interesting publication. In conclusion M. Henle proposes three divisions of mucus:

1st. The epithelium, including and corresponding to the epidermis.

2nd. The secretion of the mucous glands, corresponding to the perspiration and the oleaginous secretion of the skin. Mucous juice (Schleimsaft).

3rd. Pus, or, if any one thinks this too strong an expression for the discharge in common nasal catarrh, puriform mucus.

Divisions again must be made of the epithelium according to the form of its elements, and according to the normal or pathological process of its formation; of the mucous juice according to the physiological nature of the secretion, for it is very different in different parts; of pus from the manner of its secretion, from surfaces, or in abscesses, from the quantity of the little molecules, from its thickness or thinness, &c.

Dr. Stokes has placed in my hands a letter received lately by him from our late intelligent visitor, Dr. Staberoh of Berlin. In it, amongst other topics, Dr. Staberoh introduces the one under present consideration, and as it shows that the opinions of Dr. Henle are participated in by other physicians of distinction, it cannot fail to give pleasure to our readers. I quote nearly his own words.

“ You are well aware that lately microscopical research has been very much the hobby of German physicians, and, therefore, you cannot be surprized if I relate to you something about the microscopical examination of the mucous membrane of the intestines in the Asiatic cholera. These examinations were principally conducted by Dr. Böhn of Berlin, a former pupil of Professors Muller and Schlemm.

“ He found that the mucous membrane of the whole intestinal canal undergoes a desquamation ; the epithelium goes off in different manners, similar to the different pathological degrees to which the insensible exfoliation of the epidermis on the skin, in various exanthematous disease, is carried. This exfoliation is most considerable in the jejunum, less in the stomach, very trifling in the colon. The epithelium of the mucous membrane consists of very minute pyramids, the bases of which are turned outwards, whilst their points touch the mucous membrane, which also rises into the intervals between them. These pyramids are thrown off by exfoliation, crumble away by degrees, or fall off in masses adherent to an accumulation of matter which forms under them, as in the case of pustules, vesicles, &c. This process goes on so rapidly in Asiatic cholera, that in persons who had died the second day from the accession of the disease, the intestinal mucous membrane had lost nearly all its epithelium. Should the patient live long enough, the mucous membrane itself suffers, its villi are destroyed by ulceration, also the little glands which are situated around their roots, and this ulceration may cause hæmorrhage from the bowels. Pathologists, in different countries which have suffered from the ravages of Asiatic cholera, have found a peculiar fluid in the bowels of the deceased, so constantly, as to believe it to be a pathognomic sign, as Cruveilhier attests, ‘ *La présence du liquide cholérique est le seul caractère constant, on pourrait dire spécifique qui on rencontre constamment chez les individus qui ont succombé dans la période asphyxique.*’ Many suppositions have been brought forward with regard to its nature, and different names have been given to it from its appearance, viz. milky, purulent, water-gruel like, rice-water like. We do not find in the intestines the remains of what has been drunk during life, because all which is ingested is thrown off in so short a time, that we find the above-mentioned masses nearly pure in the intestines. If kept in a glass a sediment falls down, above which stands a colourless liquid. This sediment is whitish, greyish, or yellowish, and consists of the fragments of the internal epithelium, the serum is the product of a pathological secretion, of which the blood becomes deprived ; it also varies in colour, sometimes it appears white like lime-water, sometimes yellowish. In the most acute cases which have proved most rapidly fatal, the sediment as well as the serum appeared whitish : in those in which dissolution came on slowly, loamy. The appearance of the contents of the intestines is owing to the proportion which the serum and fragments of epithelium bear to one another, so that we call them milky, ricey, gruel-like, flock-like, especially in the duode-

num on the valvulæ conniventes where the desquamation goes on very rapidly.

“ These masses appear like pus when there is very little serum, and flocculent when the epithelium is thrown off in large pieces, so that under the microscope we see fragments of it like the fingers of gloves which have been detached from the villi of the mucous membrane. The membranous appearances, generally supposed to be the products of an exudation, are very large fragments of the epithelium, like the large pieces of epidermis which are detached in scarlatina.

“ When the fragments of the epithelium are partially dissolved, they appear stringy ; we never find scales of epithelium in the colon, they become scarce as we approach the ilio-cæcal valve, nor are they to be found in the evacuations, hence we may take it for granted they are very soluble in the secretions of the colon.

“ As in Asiatic cholera no gland secretes, neither the salivary (hence the intense thirst) nor the lachrymal, we may infer that the liver may be included in the category, even though the gall bladder may be filled with bile, as that it may be a product of healthy secretion previous to the accession of the disease. The hepatic ducts are filled with a thick yellowish matter, which is shown by the microscope to be their epithelium cast off in pieces similar to those we have described in the intestinal canal, and it is the intermixture of these particles of yellowish epithelium which gives the yellow colour which is sometimes perceived in the contents of the intestines.

“ In one-third of the cases examined, only, was bile found, then it was partially spread over the mucous surfaces in some places, whilst others were perfectly white, but in the generality of acute cases no bile was found. Whilst bilious vomiting is rare, and admits a favourable prognosis, still black masses are often ejected by the mouth similar to others which are found on post mortem examination in the mucous folds of the stomach, and which chemical investigation proves to be a degenerated bile. Bloody stools are always fatal, even where no other symptom seems to indicate approaching dissolution. In the mucous membrane itself circular ecchymoses are to be found, and the villi are perceived under the microscope to have their points filled with blood. Bloody contents of the intestines are characterized by a shockingly putrid smell, whilst the more common white masses have an agreeable odour. The stools in the commencement of the disease are mixed with bile, afterwards they become limpid or whitish like rice water, in which pretty large flocculi float. These do not consist of fragments of epithelium

(which are never found in the stools,) they are a kind of filaments, probably the products of crystallization of the fluid formed by the dissolved epithelium.

“The points of the villi in the duodenum, as well as in some parts of the jejunum, are filled with oily drops, and when compressed between two glass plates, and then examined by the microscope, they appear expelled towards the mucous surface of the villi; this observation leads us to suppose, that Lieberkuhn, who describes a swelling (*ampullula*) at the points of the villi, has examined something like the above described condition, and we cannot now reject his observation, as has been the case for many years. In the kidneys as well as the ureters, where in true cholera no urine is found, whilst masses like milk are to be seen, which, examined by the microscope, appear also formed by fragments of epithelium, these are to be observed also in the pelvis of the kidney, and even in the *tubuli uriniferi*. We find in the contents of the intestines, as well as in the vomited matters, small oval bodies which are attached to one another, and appear ranged like pearls; these are found to be little mushrooms, much resembling those formed in liquors commencing to ferment.

“The Lieberkuhnian glands, which lie like small boxes among the roots of the villi, undergo the same loss of epithelium as the mucous surface, which when detaching admits of their appearing enlarged and swollen. The Peyerian glands, when the loss of epithelium is followed by deep ulceration, appear reticulated, or in some cases there is an exudation in the sub-mucous tissue, only less marked than in fever with abdominal complication; and these caudated masses never become softened, as those do which I have described in a note to a paper sent to you from Glasgow. There is yet a third change which the Peyerian glands may undergo in cholera, viz. that those folds which are so distinctly seen crossing them in children, reappear when irritation and deposition occur.”

EXPLANATION OF THE PLATE.

Fig. 1. Cells of the plaster epithelium, isolated to show the gradual extension and flattening of the cells; *a* from the under layer, or that lying next to the cutis or mucous membrane; *b c* from the middle layers; *d* from the most external layer, scales ready to be thrown off.

Fig. 2. Plaster epithelium seen from the surface; *a* taken from a serous membrane, or the deepest layer of a mucous membrane, or of the cuticle; *b* upper layer of the cutis and *mucosa*, with the epithelium attached.

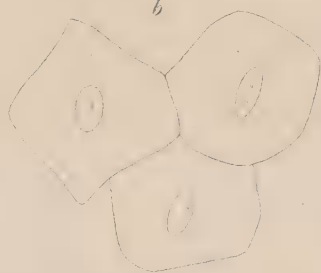
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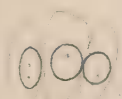
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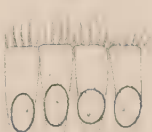
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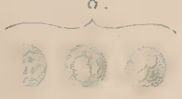
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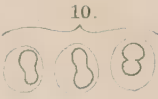
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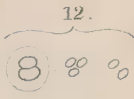
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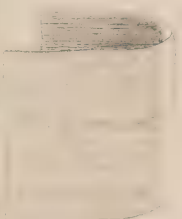
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Hodges & Smith

Dublin.

- Fig. 3.* Plaster epithelium, vertical section.
Fig. 4. Form of transition.
Fig. 5. Cylindrical epithelium.
Fig. 6. Ciliary epithelium.
Fig. 7. Cylinder and ciliary epithelium, seen from above.
Fig. 8. Molecules of mucus and pus.
Figs. 9 to 12. Successive changes in those molecules when acted on by acetic acid.
Fig. 13. Folds of the mucous membrane of the trachea, with the tunica nervea deprived of its epithelium.
Fig. 14. Primary cells, from tubercles.
Fig. 15. Transition of the primary cells into cellular tissue, taken from granulations.

I feel sorry that the limits allowed me for this review of M. Henle's opinions will not permit me to do justice to this highly interesting paper, but I should hope that the success of his present research may lead him to endeavour to discover somewhat more of the minute history of the development of tubercles, a point on which as yet medical literature is extremely deficient.

S. L. L. BIGGER.

Gazette Medicale. JULES GUERIN, M.D., etc. Redacteur.
 Paris.

WE have received some of the late numbers of the *Gazette Medicale de Paris*, which are, as usual, full of interesting matter, and must tend to sustain the high character that our cotemporary has always maintained for its important original communications, accurate analysis, and reports of whatever pertains to medicine and the collateral sciences. We only regret that, from the irregular supply of this valuable journal, we are so often debarred from giving our contributors gleanings from its pages. As the limits assigned us are rather confined, we must be content with a brief notice of some of the most striking materials.

The first paper we shall notice is an interesting *mémoire* on Diaphragmatic Hepatocele, by M. Lambron, who gives the details of a case which came under his observation in September, 1838, and of which we shall state the most prominent features.

A woman, *æt.* 77, was thrown down by a coach, the wheels passed over her legs, fractured them, so that she died in twelve hours after admission to the Hotel Dieu. On examining the body, a large opening, the size of the fist, was found in the right

side of the diaphragm partly formed by the cordiform tendon, and by the muscular structure, through which passed the right lobe of the liver, with the gall bladder, and the angle of union formed by the ascending with the transverse arch of the colon.

The hernial sac, formed by a *refoulement*, of the peritoneum, ascended to a level with the second intercostal space, it was similar to the hernial sacs we find in the abdomen, but was quite free from adherence, and covered by a serous membrane. The right lung, pushed forward against the sternum, and in front of the heart, was only half the size of the left, but both lungs were healthy. The mesentery was displaced, extending from the left iliac fossa to the spine.

The left lobe of the liver was much enlarged, extending into the left iliac fossa, and pushing up the spleen to the fifth intercostal space. There was a great contraction of the liver on a level with the diaphragm, so as to form a pedicle for the right lobe, which was ovoid, very irregular, but of a natural structure, and larger than the opening. The gall bladder was small; its serous membrane presented traces of adhesions; its mucous membrane had the character of an inflamed bladder, and contained four calculi. The biliary ducts were longer than natural, the ductus choledochus being three inches long.

This woman had always enjoyed good health; had slight difficulty of breathing, but never any paroxysm resembling asthma; was subject to attacks of epilepsy, with hallucination of sight and hearing.

The first question naturally is, was this congenital? That it was is evident.

1st. The uninterrupted continuity of the serous membrane, without any cicatrice, or trace of injury to the diaphragm, the opening in which was perfectly smooth and regular.

2nd. The size of the right lobe of the liver, larger than the opening through which it had passed, proves that its nutrition had increased, subsequent to the hernia.

3rd. The state of the right lung (which, though but half its natural size, was perfectly permeable) indicates congenital atrophy.

4th. The great size of the left lobe of the liver, with the atrophy of the right, tends to prove that the hernia had occurred previous to birth.

The history of this malformation is entered into with care, and some cases quoted also. Two errors of Boyer are corrected, who has given one case as an *hepatocèle*, which was merely a transposition of viscera; and who states that this defect is most common at the left side, whereas all the cases hitherto observed have occurred at the right.

The diagnosis of these malformations is difficult, but of great importance, as patients have undergone severe treatment, and operations, for supposed diseases which have been merely congenital defects. Thus J. L. Petit, gives a case which had been mistaken for hydrothrax; Beecher cites one which had been treated as asthma.

The next contribution we shall notice, is an Essay on the Congenital Encephalocele, by M. Nivet, who has treated the subject (says our cotemporary) in a very complete manner. He commences by a numerical statement of the different situations in which it has occurred, thus:

Thirty-five cases are given: six at the coronal suture; two at the anterior fontanelle; two at the posterior fontanelle; two at the lamboid suture; one at the occipito-temporal suture; one at the fronto-parietal; one at the temporo-occipital fontanelle; one at the petrous portion of the temporal; two at the foramen magnum; seventeen occurred at the occipital region; and of these the tumour was formed eight times by the cerebellum; seven times by the two portions or lobes of the cerebrum; once by one lobe; and once by part of the cerebrum and cerebellum.

So far, M. Nivet deserves credit for his industry; but with regard to the remainder of his essay, we regret that we must differ from him; first, with regard to correctness; next, as to any claim of originality which he may pretend to. We found our assertions on a paper which has been published in the Dublin Journal for January 1st, 1833, by Mr. Adams of the Richmond Hospital, and which is a valuable memoir on the subject, not only from the clearness and elegance of its style, but chiefly as the result of his own observations on this disease in all its stages, at birth, in the adult, and during the intervening period.

M. Nivet states, that this hernia is most frequent at the fontanelles, which is quite at variance with the observations of Mr. Adams, who states, that it is far more frequently seen to protrude through some one point of the median line of the occipital region, where at birth no fontanelle ever exists; and this he accounts for, referring to the anatomy of this line, and of the brain itself, during the first periods of intra-uterine life, which he illustrates satisfactorily by plates. We must refer our readers to the original communication of Mr. Adams, which will amply repay them.

We cannot conclude this brief notice, without hinting (in a friendly spirit) to our continental brethren, that it would not be derogatory to themselves, and certainly would tend to the advancement of science, if, in the investigation of pathology, they would look somewhat further than their own schools, as they

seem to have forgotten that there are as strenuous and able advocates for the cause of morbid anatomy (and the important conclusions to be deduced from its study) to be met with in London, Dublin, Edinburgh, and other parts of Britain, as any of the continental schools can boast of possessing.

C. L.

The Quarantine Laws, their Abuses and Inconsistencies. A Letter addressed to the Right Hon. Sir John C. Hobhouse, Bart., M.P., President of the Board of Control. By ARTHUR T. HOLROYD, Esq.

THE pamphlet which we have received, bearing the above title, treats very nearly of similar matters to those contained in the observations by Dr. Bowring on Oriental Plague and Quarantines, which we reviewed in our last number. Both aim at proving that quarantine is useless, as a means of preventing the spread of plague, yet by a strange inconsistency both destroy the effects of their own reasoning by the statements of the inefficiency of the lazarettos, and the partiality which officials may exercise in those institutions. Now, in our humble judgments, in order to prove that quarantine is useless, it would have been necessary to the theories of both the gentlemen from whom these pamphlets have emanated, to prove quite the contrary of what they have done, in order to induce any logical mind to believe their conclusions drawn from allowable premises; but both have preferred the specious course of appearing to reason, in place of reasoning in reality. Both assert that quarantine is useless, one because he does not, in the face of the most positive examples, believe in contagion, the other because plague is asserted to have passed into the best regulated quarantines; and both, because they have found it both inconvenient and irksome to be detained, we may say imprisoned, in a lazaret, when they would much rather have been enjoying their liberty. However, as there is a shade of difference between these two authors, Dr. Bowring wishing that quarantine might be entirely done away with, and Mr. Holroyd that it might be properly regulated, we cannot help leaning to the opinions of the latter gentleman, although we do not perfectly accord in them.

One of the absurdities which Mr. Holroyd vehemently protests against is, that in places where plague is actually present persons should be prevented from entering, but be obliged to undergo a quarantine of from seven to twenty-one days, previously, as though the place were free from disease. A second

that a teskeré or order from the government, procured through the medium of a consulate, was considered in many places as equivalent to seven days' purification.

It appears also that great difference in the duration of the quarantine is made in the instance of different vessels, for instance, vessels of war from Alexandria (an infected city) were put into quarantine on their arrival at Beyrout, of fourteen days, inclusive of the seven days spent in the voyage thither.

“ So that if seven days were occupied in the voyage, seven days of purification were necessary at the lazaret where the plague was existing; so that many were obliged to pass from the comforts of a pure and healthy vessel, as for instance from one of H. B. M. steamers to a confined and close building, the focus of plague during the spring. Merchantmen arriving at Beyrout from infected places as Alexandria, were compelled to undergo a more extended quarantine, and passengers from these vessels were confined in the lazaret twenty-one days, because, as I was informed, the authorities supposed that merchandize carried the infection of plague longer than the baggage of passengers who had made a similar voyage in a government steamer or a vessel of war.

“ I may mention that at the time these sanitary regulations were in force at Beyrout, there was a quarantine upon vessels leaving this port and arriving at Alexandria, where the plague was committing much greater ravages. The period was twenty-one days for passengers by steamers or vessels of war, and twenty-five for those who had come by vessels carrying merchandize.”

In contradistinction to this severe quarantine to protect places actually infected, our author states that a quarantine of seven days at the Pines was considered sufficient on leaving Beyrout, and that then a person was considered as incapable of injuring the public health at Damascus where there was no plague, and which he could reach with ease in three days, thus within ten days he might be in the infected Beyrout or the Pines and in the pure city of Damascus.

“ The same person might reach many parts of Mount Lebanon on the day of his being admitted to pratique; he might accomplish the journey to Deir el Kammar, the residence of the Emeer Besheer, for instance, in seven hours after leaving the pines.”

Comparing these facts with the quarantines enforced on steamers, men of war, and merchantmen from Alexandria to Beyrout, and *vice versa*, Mr. Holroyd says,

“ From this it will appear that the health of the inhabitants of Damascus, a city entirely free from plague, was considered a matter

of less importance than the well being of Beyrout and Alexandria, towns in which the plague actually existed, and we come to this conclusion, that in proportion to the purity of the town, arising from the absence of plague, were facilities in the same ratio afforded to assist its propagation and extension, by granting a less period of quarantine, and, therefore, a more direct intercourse.

Mr. Holroyd complains, that whilst strict quarantine was kept up with regard to all others at Beyrout, that Hekekyan Effendi (now Hekekyan Bey) and Muchtar Bey, then minister of public instruction, should have been permitted to land; having come to Beyrout where plague was raging, and being accompanied by a guard of soldiers to prevent communication with the town, (how the soldiers were to be protected is not mentioned,) proceeded to Mahmoud Bey's house, a distance of a quarter of a mile through the streets, and, after a conference with the governor, returned and embarked, and remained on board their vessel eight days till a supply of mules had arrived; that then they proceeded, outside the cordon, to the residence of Deir el Kammar, thence to Cornail, the Pacha's coal mines, and, after being in Mount Lebanon five days, returned to Beyrout, and embarked outside the cordon. Thence they sailed to Alexandria, where they arrived in seven days, and were immediately admitted to pratique. Having communicated with Alexandria, previous to sailing for Beyrout, they were not placed in quarantine on arriving in the latter port. They most completely communicated with Beyrout, yet, on their return, they were not confined to Alexandria; and, lastly, they most completely communicated with Deir el Kammar and other parts of Mount Lebanon, the inhabitants of which had daily intercourse with Beyrout after the existence of plague had been discovered there, and previously to the establishment of the cordon.

“As the quarantine at Alexandria from Beyrout was twenty-one days for ships of war, ought not the Beys to have been incarcerated on their return?”

We agree perfectly with Mr. Holroyd, that one most important question in the instituting of quarantine has never been satisfactorily answered, viz.: the period between exposure to the disease and the development of the disease, or, in other words, its latent period. Till this is known with some degree of accuracy the period of quarantine must always be arbitrary.

The various boards of health form their regulations according to old established custom from the European ones, and very little inquiry is made in Egypt into the medical history of the

disorder, by them. Indeed, Mr. Holroyd accuses them of culpable negligence in not availing themselves of the extensive knowledge and local experience of such men as Drs. Gregson, Abbott, Laidlaw, Pruner, Clot Bey, Gaëtani Bey, Bulard, &c.

Now we know, and we have it even on Mr. Holroyd's authority, that Clot and Gaëtani Bey were both members of the board of health at Cairo in 1835 and 1836, and, therefore, they were not excluded from expressing their opinions in the strongest point of view on this question.

Mr. Holroyd has put a series of questions to several medical gentlemen, and to H. B. M. Consul at Alexandria, R. Thurburne, Esq., we select a few of the answers.

R. Thurburne :—

“The collection of evidence from medical men respecting the plague has never, so far as I know, been one of the objects attended to by the board of health.

“The board has never made any inquiries of medical men who have had practice in the treatment of plague, to ascertain the period which elapses between the exposure to infection and the development of the disease, preparatory to establishing quarantine.

“In establishing quarantine the board has acted upon the regulations adopted by the quarantine establishments in Europe.”

Thomas Leslie Gregson, M. D., Alexandria :—

“I believe plague to be sporadic.

“I believe Egypt to be never free from plague.

“I consider infection to mean being exposed to miasma, and being affected by its influence.

“I believe plague to originate in miasmatic influence, from finding its ravages ceasing about the 20th of June, there being no longer humidity to favour the decomposition of animal or vegetable substances.

“I am not aware of having seen one case contagious.

“I feel confident that contact will not produce the disease. Indeed those who saw most of the disease feared it least. We dreaded the quarantine more.

“Plague is epidemic.

“The latent period is from the fifth to the seventh day.

“I believe good nourishment, proper ventilation, and cleanliness are the only efficient means of eradicating or preventing the extension of plague.

“I consider the board of health at Alexandria to be inefficient, expensive, even to prodigality, and tyrannical in its operations. It has even solicited the dismissal of zealous medical men, because they had reported the tricks of their emissaries. I may mention, in the case of Dr. Bowring and Clot Bey sailing for Syria, its keeping back the announcement of a case of plague till they sailed, although the

case was known three days before ; they were not out of sight when the case was declared. I sailed for Syria a few hours afterwards, and had eighteen days' quarantine ; so much for its honesty of executive.

Henry Abbott, Esq. :—

“ The plague of 1835 was said to have been imported ; but I believe it always exists more or less in Egypt.

“ Egypt is never entirely free from plague.

“ The disease is propagated, I believe, by infection.

“ By infection I mean miasma, either in the atmosphere, or from the diseased person.

“ I have never seen the disease propagated by contagion.

“ I do not believe that actual *contact* will produce the disease ; but it must be borne in mind that when one approaches a plague patient, one is within the sphere of infection.

“ I cannot positively say what may be the latent period, but I should think about fifteen days.

“ Europeans usually keep quarantine ; but the male portions of families go out, and profess to keep quarantine by keeping every body at a distance with a stick.

“ I have known instances of Europeans keeping quarantine, and observing the precautions just mentioned, being attacked by plague.

“ I consider these precautions insufficient, because I regard plague as infectious not contagious.

“ The cordons sanitaires around Alexandria had not the effect of arresting the disease.

“ I was not allowed to make *post mortem* examination.

“ Several nurses and physicians have been attacked with the disease whilst attending plague cases.”

Dr. Pruner, Cairo :—

“ The plague of 1835 was imported in the first instance by the brother of Ciglio, a Maltese physician, transported by him to another brother ; by the second brother to a black woman ; from her to a Greek neighbour, &c.

“ I believe that Egypt is never entirely free from plague.

“ I believe that plague is propagated both by contagion and infection.

“ I never saw the disease propagated by contagion ; but I believe it is capable of being so propagated.

“ The disease is sometimes epidemic, but not always.

“ I believe the latent period to be a few hours when the disease is contagious ; but the extreme limit of the latent stage is, in my opinion, five days.

“ I do not consider quarantine a sufficient safeguard against plague : it can only be such in countries where the disease is not endemic.

“Cordons have not had the effect of arresting the disease.

“Two classes of medical men suffered from plague at Cairo—old, exhausted men, and young men freshly arrived from Europe. Of the old men, Drs. Marucci and Dussap. Amongst the young, Dr. Fourcade and Dr. Leopold; and they were almost all attacked after the first visits to plague patients. Dr. Fourcade after the first dissection.”

This mass of evidence, derived from respectable persons, if it militates against the decided contagiousness of plague, leaves the quarantine question just where it found it: it proves indeed that quarantine is not rigidly observed; and as it is impossible that a medical man could be sure of the perfect honesty of the numbers of individuals forming the cordons, we lay very little stress on the circumstance of cases being found within them. Again, we think it matters little, except in a scientific point of view, whether the disease be contagious, or whether it proceed from miasma actually coming from the person of the diseased. Such a distinction as this, for all useful purposes, may be called a distinction without a difference, which, in regard to the public safety, it would be as well to do away with. The essential question, in a medico-legal point of view, so as not unnecessarily to detain travellers or impede trade, is—what is the length of the latent stage of plague? In answer to this,

Dr. Gregson says, between 5 and 7 days.

Dr. Pruner „ „ 5 days.

Dr. Iken „ „ 3 days.

Mr. Abbott „ about 15 days. Uncertain!

Here there is great discrepancy, and, we may add, no certainty; we abstain from quoting the periods which have been mentioned by others, whose names have not been introduced in the work under review, but were we to do so, it would only render “confusion more confused.” The quarantine at present enforced aims, by exceeding the longest time mentioned by any credible author, to place the public in the greatest degree of safety.

All those gentlemen whose names are mentioned above, agree in one point with the opinion of Clot Beg, that by bettering the physical condition of the poor, plague may be mitigated, or perfectly eradicated, as in the typhus of this country; but unfortunately for this argument, the instances they have adduced of plague entering quarantines, and passing cordons, have been almost without exception confined to persons in the affluent ranks of society, or to their retainers, who were amply furnished not only with the necessaries but the luxuries of life. Besides

this, they say that the disease is epidemic or endemic; this alone, without any other, would be sufficient reason for the havoc which it commits amongst the lower classes of society, from their being more closely packed together, and more subject to the same influences than those whose wealth enabled them to live apart.

Now, for argument sake, we will lay our axe to the root of this theory, and cut it to the ground. If poverty, filth, living together in great numbers, and in situations bordering on rivers and swamps, were the exciting causes of plague, would not those obnoxious to these causes be the greatest sufferers? Certainly! Now is this the case? Positively not! We would refer our readers to the admirable paper of Dr. Bulard, (published in the July Number of the twelfth volume of this Journal,) where they will find the comparative number of cases occurring in the mixed population of Smyrna for five months; in it both the number of cases occurring, and the ratio of mortality, is found to be greatest amongst the Turks, who live more secluded, are far cleaner, and possess more of the comforts of life, than the Greeks, Catholics, Jews, and Armenians, who form the rest of the population. Amongst the Turks the cases were 1 in 13; amongst the Catholics 1 in 200. Now, with this staring fact before their eyes, how can the non-contagionists come forward with their isolated and ill substantiated cases, to impugn such testimony. There is but the one way of explaining it. The Turks, the most cleanly, sober, &c. by the ordinances of their religion, use no precaution; they come fearlessly in the way of contagion, which is avoided by the others, and are accordingly sufferers in the very large ratio we have mentioned; were the disease simply epidemic, or endemic, they should suffer less than the rest of the population from their habits, and from the healthier situations which they in general occupy in the cities. When we find evidence brought forward by the non-contagionists equally strong in a statistical point of view as that contained in the recent work of Dr. Bulard, and in the page of history generally since plague was known, we will willingly cede every opinion we have expressed, and joyfully enlist ourselves under the banners of the opponents to our present opinions.

Mr. Holroyd gives an account of the quarantine at Malta, which he acknowledges to have been quite sufficiently strict; but as a great deal of it is filled up with private annoyances of a petty nature, we will conclude our notice with a list of the sanitary regulations which have recently been issued at Constantinople, and published in the Malta Gazette of the 25th of July, 1838.

“1. All ships on arriving at the Dardanelles, shall be obliged to produce their certificate of health.

“ 2. Every ship coming from Egypt, Syria, and other parts of the Mediterranean where the plague exists, shall be subjected to a quarantine of observation.

“ 3. Every ship arriving from these places with sick persons on board, shall be subject to strict observation till the cases are dead or cured; and the quarantine shall not commence until the day of the death or of the cure of the last case shall be certified by the person employed for that purpose.

“ 4. Every ship which, after its certificate of health, shall be ascertained to have lost any of her crew on her voyage, shall be liable to the quarantine of ten days.

“ 5. Every ship coming from a place where the plague was raging, but which has had no cases on board, shall perform a quarantine of seven days.

“ 6. Every ship coming from places where the plague has not appeared, and which has had no case on board, shall perform a quarantine of five days.

“ 7. Ships shall perform their quarantine at Gallipoli, or the roads at Constantinople, according to the state of the wind; but in every case they shall have a sanatory guard on board from the time of their arrival in the Dardanelles.

“ 8. If, during the quarantine, any cases of plague shall take place on board, they may be landed with the necessary precautions, and placed in buildings appropriated to that purpose.

“ 9. The sanatory expenses shall be charged to each ship, and calculated according to the scales used in European establishments.”

This list of regulations, which is stigmatised by Mr. Holroyd as absurd, proves that the Turks, under the prudent government of their wise ruler, are becoming awake to the danger to which they have so long unnecessarily exposed themselves, and we are of opinion, that it should act as an additional hint to our own government to be cautious in making any changes in the present systems of quarantine, till a thorough investigation of the whole subject shall have been made by medical men, perfectly unconnected with any mercantile pursuit.

S. L. L. BIGGER.

Wilhelm Stokes, Doctors der Medicin, &c. &c., Abhandlung über die Diagnose und Behandlung der Brustkrankheiten, aus dem Englischen. Von GERHARD VON DEM BUSCH. Bremen, 1838.

It must be truly gratifying to every one interested in the reputation of the medical school of Dublin, to find that the work

of Doctor Stokes on Diseases of the Chest has obtained as great a character in Germany as in Great Britain. Doctor Busch, the translator, commences his preface with the following just observation :—

“ Since the publication of Laennec’s great work, which formed an epoch in medical history, many valuable treatises have appeared in France and England on the same subject, but none of them can bear comparison with that which has lately emanated from the pen of Dr. William Stokes of Dublin.”

Doctor Stokes has been unusually happy in having so able a translator as Dr. Busch ; we do not say this at random, for we have carefully perused the whole of the German volume, which is written with wonderful accuracy, and in an excellent style. English medical students, anxious to acquire a knowledge of German, could not purchase a book better suited to their purpose, for by carefully comparing it with the original, they will be enabled to overcome the difficulties of the language, and will at the same time gradually make themselves masters of the contents of a work which every student and practitioner ought diligently to study.

Supplementary Tables to DR. E. TIEDEMANN’S great Work on the Arteries of the Human Body, consisting of eighteen coloured Lithographic Drawings, copied from Nature, and of the full Size ; with an explanatory Text in both Latin and German.

PROFESSOR TIEDEMANN, in reference to these Tables, remarks, that since the publication of his Plates of the Arteries sixteen years ago, he has continued uninterruptedly to direct his attention to the course and manner of distribution of the arterial system in all the subjects which have been dissected in his Anatomical School at Heidelberg. In addition to this, he has carefully inspected, in the principal anatomical museum in Europe, such specimens of remarkable varieties in the distribution of the arteries as are there preserved, and has obtained from these sources careful and accurate delineations of many irregularities in the arteries, which have not been represented in his previous work. The proposed supplement will contain, *first*, a series of plates illustrative of those more rare varieties in the course of the arteries which, during surgical operations, are occasionally met with, and require to be well known ; and, *secondly*, will exhibit some accurate representations of the situation and course of those anastomosing vessels, which, in ordinary circumstances, carry on

freely the circulation in several parts of the body, and which again, upon the obliteration of the larger arterial trunks being caused by the application of the ligature or otherwise, still maintain the free current of the circulation. The Professor hopes, in this way, to contribute largely towards the advancement of our anatomical knowledge of the arrangement and course of the arteries ; but especially he expects to render a real and essential service to the practical surgeon. The greatest care and diligence are to be bestowed upon the execution of this Work, as regard the drawings and letter-press. The form and general style of the supplement will correspond with Professor Tiedemann's large Work on the Arteries, already so favourably known to the profession.

The farther execution of this Work will be proceeded with so soon as the names of subscribers for it shall be procured in sufficient number to cover the necessary expenses.

NOTICES OF WORKS RECEIVED.

WANT of space prevents our insertion of notices of the following works :—

Rowland on Neuralgia.

An Exposition of Quackery and Imposture in Medicine.

A General Outline of the Animal Kingdom. By T. Rymer Jones, F.Z.S.

Practical Observations on the Diseases of Women. By W. Jones, M.R.C.S.

Illustrations of Osteology. By Theodore Boissragon, M.D.

The Surgeon's Vade Mecum. By R. Druitt, M.R.C.S.

Outlines of Human Osteology. By F. O. Ward, M.R.C.S.

Transactions of the Zoological Society of London.

First Annual Report of the Dublin Natural History Society.

Medical Notes and Reflections. By Dr. Holland.

Dr. Radford's Essays on Midwifery.

SCIENTIFIC INTELLIGENCE.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY.

(CONTINUED.)

Eighth Meeting, January 26, 1839.

DR. GRAVES in the Chair.

1. *Perforating Ulcer of the Stomach.*—Dr. Hutton exhibited a recent specimen of a large ulcer situated at the lesser curvature of the stomach; it had penetrated the peritoneal covering; the coronary artery ran close along the edge of the aperture. This ulcer was obviously chronic.

The preparation was taken from the body of a young female, to all appearance healthy; seven days previous to her death she received an extensive burn of the face, neck, and shoulder; upon the evening of the sixth day after the receipt of the injury she was seized with vomiting, and on the morning of the seventh day severe abdominal pain set in followed by collapse. She died of peritonitis on the next day. (*Museum, Richmond Hospital.*)

2. *Ileo-cæcal Abscess, with Perforation of the Intestine and Groin.*—Mr. Ferrall presented the recent parts in this case. The patient, a young girl, was admitted into the Meath Hospital, with tumour in the right iliac region, about fourteen days after the first attack; suppuration of the tumour had then occurred; the bursting of the abscess was soon indicated by a copious discharge of purulent matter from the bowels; soon after this another tumour formed in the upper part of the thigh, separated from the former by a deep sulcus corresponding to Poupart's ligament, below which an opening occurred, through which pus and ultimately fæcal matter was discharged. Mr. Ferrall exhibited the mode of communication between the abscess and opening in the groin; the fistula took a direction at first downwards, and afterwards upwards and inwards, the omentum adhered to the parietes of the abdomen and cæcum; the communication from the abscess into the intestine was by two small openings separated by a slip of mucous membrane, and resembling the appearance often seen in the integuments when an abscess opens by a slough.

An important peculiarity in this case was the mode in which the matter had made its way externally, namely, by perforation of the iliac fascia, and descent on the outside of the femoral vessels.

Mr. Ferrall also shewed that in this case the communication with the intestine did not, as Dr. Burne supposes, take place through the appendix vermiformis, the appendix being free from disease. The perforation had taken place from the abscess into the intestine, being the *third form* of the disease formerly described by Mr. Ferrall in the *Edinburgh Journal*. He owed the specimen to the kindness of Dr. Stokes. (*Museum, St. Vincent's Hospital.*)

3. *Incipient Cirrhosis of the Liver, with chronic Gastritis and Congestion of the Mucous Membrane of the Intestines.*—Mr. Carmichael exhibited the recent parts in this case. The viscera were those of an habitual drunkard; the liver was but slightly diminished in size; the left lobe presented a more marked type than the right, and had the mammillated appearance, which was scarcely to be detected in the right portion of the organ; the spleen was much enlarged; the mucous membrane of the stomach was thickened and of a slate colour, and that of the small intestines deeply congested; the lungs presented a great number of tubercles in different stages. (*Museum, Richmond Hospital.*)

This patient died with ascites, for which he had been twice tapped. Mr. Carmichael considered that in this case and others of the same description the primary lesion was inflammation of the gastric mucous membrane, and that the lungs were subsequently tuberculated.

4. *Extensive Fracture of the Cranium, in Consequence of a Fall during an Epileptic Paroxysm.*—Mr. Cusack exhibited a portion of the cranium of an individual, who in a paroxysm of epilepsy fell with violence on a stone floor; the skull was extremely thin; the right frontal bone was fractured and depressed, and the internal table extensively separated from the external; about two ounces of blood were effused from the middle meningeal artery, which had been torn across; the arachnoid was vascular, and some effusion existed beneath it. Subsequent to the fall the patient recovered his senses, and remained free from any attack until the next day, when the convulsion returned, and was repeated several times previous to his death. (*Museum, Park-street.*)

5. *Formation of numerous Cysts in the Kidneys, with extensive Depositions of Phosphate of Lime.*—Dr. Corrigan presented the kidneys of an individual, who had long laboured under symptoms of irritation of the bladder and urethra; he had curvature of the spine of long standing; on dissection the urethra, prostate, and bladder were found healthy; one kidney was converted into a number of large cysts, while the other presented the same disposition; but with this difference, that the loculi contained great quantities of a substance resembling putty, and composed of phosphate and carbonate of lime, with a slight trace of albumen; in the course of the disease the pa-

tient laboured under hæmorrhage from the bladder. (*Museum, Digges-street.*)

6. *Softening of the Uterus*—Dr. E. Kennedy presented a specimen of this disease, taken from the body of a female, who died on the day of her admission into the Lying-in Hospital, and without having presented any remarkable symptom, excepting pain at the upper and inner part of the thigh, where a slight redness was observable. The Cæsarean section was performed, but the child was found dead, though perfectly formed. On dividing the parietes of the abdomen, the uterus appeared a deep purple or almost black colour; its texture was remarkably soft, and its mucous surface covered with grumous blood.

Dr. Kennedy said, that he considered the specimen before the Society an excellent example of ramollisement of the uterus and placenta; a disease not common in this country. He observed, that there were two forms of softening of the uterus: one superficial, and confined to the mucous membrane, the other pervading the entire texture of the organ. Under the latter circumstances, the disease assumes a virulent character, and runs its course with rapidity.

In this case there was some dilatation of the os uteri, but scarcely any labour pains. (*Museum, Lying-in Hospital.*)

7. *Separation and Discharge of the superior Epiphysis of the Os Femoris*.—Dr. Carlile exhibited the head of the femur, which had been separated from the shaft of the bone in consequence of scrofulous disease of the hip joint. The patient from whom the specimen was procured, was about twenty years of age, and of a scrofulous habit. At the age of fourteen he had suffered from acute rheumatism, which was followed by the usual symptoms of morbus coxarius. Suppuration took place in the joint, and matter escaped by several external openings. In this state he continued for four years; at the expiration of which period, the head of the os femoris presented at one of the openings, and was extracted; its removal was followed by the rapid amendment of the boy's health. (*Museum, Park-street.*)

During the above period, several other bones became similarly diseased, and a large sequestrum was discharged from the humerus. The affected lower extremity was six inches shorter than the opposite limb.

Dr. Carlile exhibited a second specimen of separation of the epiphysis. This specimen was from the museum of the Richmond School of Medicine; and had been sent to Mr. Adams by Mr. Shaw, of the Clonmel Dispensary. The patient was a child, and recovery followed the separation of the bone.

8. *Extensive Tubercular Excavation of the right Lung, communicating with the Cavity of the Pleura*.—Dr. William Beatty exhibited the recent parts in this case. The cavity in the lung was perfectly free from fluid. In this case the pulmonary disease followed upon gastric derangement; and the patient, though presenting the usual signs of pneumo-thorax, with fistula, yet made no complaint with reference to thoracic disease. He sank from diarrhœa.

Ninth Meeting, February 2.

DR. HARRISON in the Chair.

1. *Cerebriform Depositions in the Spleen and Lymphatic Glands of the Pelvis and Abdomen.*—Dr. Hutton exhibited the recent parts in this case. The spleen was more than four times its natural size, and very firm. It contained a number of large cerebriform tumours, of a circular form, soft, elastic, and of a pearly whiteness. The intervening structure of the spleen was of a deep red colour, and intensely vascular. A large cerebriform tumour occupied the iliac region of the right side, and dipped downwards into the pelvis, so as to displace the bladder and rectum. The glands along the course of the iliac vessels and ureter had undergone a similar degeneration. In the left axilla, the lymphatics were also engaged, and a large portion of the osseous structure of the sixth rib was converted into the cerebriform matter. There was no disease of the lung or liver.

The right femoral vein was plugged with coagula, but the corresponding artery was pervious. The right kidney was paler than natural, and presented a large serous cyst.

These parts were taken from the body of a man, aged 56, of a cachectic appearance. He was admitted into the Richmond Hospital with œdema of the right lower extremity; the appearance of which resembled, in some respects, that of a limb affected with phlegmasia dolens. The femoral vein was felt as a hard cord, and obviously was obstructed by coagula. This swelling had existed for about four months, having been preceded by the iliac tumour, but it almost completely subsided before death. (*Museum, Richmond Hospital.*)

2. *Caries of the Temporal Bone, with Destruction of the Mastoid Cells, and Perforation of the Cranium; Sloughing of the Cerebellum.*—Dr. Greene presented the temporal bone in this case, shewing extensive caries, with destruction of the mastoid cells, and perforation of the petrous portion; corresponding to the internal perforation, the dura and pia mater were in a state of slough, and that portion of the cerebellum which rests on the petrous bone was in a state of complete sphacelus, which penetrated about three lines in depth. A quantity of purulent matter was diffused among the muscles of the neck, and along the course of the great vessels and nerves. Some lymph existed upon the pericardium. (*Museum, Richmond Hospital.*)

The patient had been treated for fever in the Hardwicke Hospital, during the course of which he complained of pain in the right ear; after leaving the hospital he was exposed to cold, and was again seized with severe pain in the ear, accompanied by nausea and delirium, and subsequently purulent discharge from the ear; a swelling appeared below the parotid and extended downwards, and shortly afterwards he was suddenly seized with intense dyspnœa, and died as if from asphyxia.

3. *Œdema of the Glottis, following an Attempt at Suicide, in which the Larynx was divided. Tracheotomy subsequently performed.*—Mr. Adams laid before the Society the larynx of an individual, who attempted to destroy himself by cutting his throat. Thirteen days after the infliction of the injury, which was of the lower part of the larynx, he was attacked with œdema of the glottis, and his symptoms became so urgent that Mr. O'Reilly, in consultation with Mr. Adams, determined upon opening the trachea; the operation was difficult, from the natural shortness of the neck and its turgescence from dyspnœa; the perforation of the trachea was performed by Mr. O'Reilly with the chain trocar, an instrument to the value of which Mr. Adams would bear the fullest testimony; the canula was allowed to remain in the trachea, and the patient survived the operation thirteen days, when death took place, partly from exhaustion, and partly from inflammation of the bronchial mucous membrane. Mr. Adams exhibited the preparation with drawings of the recent appearances; the lining membrane of the larynx and trachea presented an intensely vascular appearance, and the rima was still greatly narrowed by the sub-mucous infiltration.

Mr. Adams next exhibited a series of drawings illustrative of œdema of the glottis in the following cases:

1. From the effects of scalding water.
2. From exposure to cold air.
3. Consequent upon the diffuse inflammation.
4. Consequent on wounds of the larynx.

(*Museum, Richmond Hospital.*)

4. *Fungous Disease of the Antrum.*—Mr. Ferrall exhibited a recent specimen of fungous disease of the antrum, which had destroyed the walls of that cavity; the displacement and disorganization of the bones and soft parts in the vicinity of the tumour were considerable; the septum of the nose and the superior maxillary and palate bones were in a great measure destroyed; the eye was displaced upwards and outwards in the direction of the corresponding temple, but vision continued unimpaired to the last; a lymphatic gland under the jaw in the digestive space was found in a state of carcinomatous degeneration; a few tubercles in a hardened state and surrounded by puckered cicatrices existed in the upper portion of left lung. (*Museum, St. Vincent's Hospital.*)

There was no other visceral disease. The patient died in St. Vincent's Hospital; she suffered very little, except from the constant stillicidium of foetid pus from the nostril; she appeared to sink gradually from the disturbance of the digestive functions occasioned by this foetid discharge passing into the stomach. With respect to the operation Mr. Ferrall remarked, that this, as well as other cases, had convinced him, that there was not a strong disposition to visceral contamination in this disease; but the patients seldom apply for relief before the neighbouring lymphatics are engaged.

5. *True Aneurism of the first Portion of the Aorta; sudden Death without Rupture of the Sac.*—Dr. Russell exhibited a specimen of aneurism by dilatation of the above mentioned portion of the aorta; the sac contained laminated coagula, and was constituted of all the coats of the aorta; the sac compressed the right bronchial tube. The aortic valves were free from disease. (*Museum, Richmond Hospital.*)

In this case the patient died suddenly, without rupture of the sac; the symptoms were stridulous breathing, dysphagia, diminished respiration in the right lung, and stridulous cough; there was no bruit de soufflet, no alteration of voice, nor any perceptible impulse.

6. *Fibrous Tumours and Polypi of the Uterus.*—Dr. Montgomery presented the uterus of a woman of advanced life shewing a soft polypus attached to the upper part of the organ, and a fibrous tumour close to the cervix; the cavity of the uterus was enlarged; attached to the termination of each fallopian tube there was a cyst containing fluid.

Dr. Montgomery next exhibited the uterus of an aged female, which contained two polypi in its cavity, and a small fibrous tumour in the substance of the organ. For the opportunity of exhibiting these recent specimens, illustrative of the combination of different forms of disease in the same uterus, to which Dr. Montgomery had before drawn the attention of the Society, he was indebted to Mr. Smith. (*Museum, Richmond Hospital.*)

7. *Peculiar Alteration of the Liver, in a Case of poisoning by Sulphuric Acid and Alcohol.*—Dr. Gabriel Stokes exhibited the liver in this case; it presented the same appearance that it does when boiled; it was of a light brown colour and singularly hard; this condition was most remarkable in the upper portion of the left lobe; the change extended about an inch in depth into the substance of the organ; the stomach was greatly disorganized, and exhaled a strong smell of sulphuric ether.

The patient having determined to destroy himself swallowed a quantity of ardent spirits, and soon after some concentrated sulphuric acid; he died in great torture: that this peculiar change of the liver had taken place during life, Dr. G. Stokes considered to be established by the fact, that the blood arterial, as well as venous, was found coagulated in the vessels of the organ; he believed that the appearances observed were the result of the action of heat on the hepatic structure evolved by the combination of the sulphuric acid and alcohol. In illustration of this opinion he exhibited a portion of the liver which he had boiled, and which presented appearances perfectly similar to those in the specimen. (*Museum, Park-street.*)

Tenth Meeting, February 9.

MR. ADAMS in the Chair.

1. *Tumour compressing the Cerebellum.*—Mr. Hamilton presented to the meeting a specimen of a tumour, which lay upon the inferior

surface of the right lobe of the cerebellum: it was nearly as large as a walnut, and of a pale yellow colour; it had formed a depression for itself in the cerebellum, the substance of which, in the vicinity of the tumour, was softened; there was a large quantity of serum in the arachnoid cavity. The mucous membrane of the stomach was intensely inflamed; and tubercles existed in the lungs and in the subserous cellular tissue of the liver. The preparation was taken from a boy æt. 19, who had been a patient in the Meath Hospital; the right lower, and left upper extremity had partially lost the power of motion, but sensation was perfect; he had slight strabismus, dilatation of the pupils, and constant pain in the head, which he always referred to the frontal and temporal regions, but never to the occipital; his intellect was perfect. (*Museum, Park-street.*)

2. *Rapid Consolidation of the Lung, occurring under the Typhoid Condition.*—Dr. Stokes laid on the table, the right lung of a man of middle age, who had been admitted into the Meath Hospital, on that day week. He had for some time laboured under the usual symptoms of chronic bronchitis, and pulmonary emphysema: upon the day after his admission, he complained of pain in the side, and was affected with a typhoid form of fever; the symptoms and signs of a pleuritis were manifest, and in this state he continued for four days, the lung remaining perfectly clear on percussion; thus it remained until two days before his death, when the whole inferior lobe became perfectly dull on percussion, and the patient rapidly sunk. The lung was solid, of a grayish colour, and remarkably firm, scarcely yielding to pressure; the surfaces of the incisions, exhibited a number of white spots, which proved to be the divided bronchial tubes filled with a white false membrane. Dr. Stokes remarked, that this case differed from other examples of typhoid solidification of the lung, in the remarkable firmness of the hepatized portion, and exhibited several specimens, in which the lung, though solidified, was remarkably soft; in two of these, gangrenous eschars had formed with singular rapidity. Dr. Stokes expressed his doubts, as to whether the term typhoid pneumonia could, with propriety, be applied to this disease:

He considered it rather an example of the infiltration of the lung, by a peculiar secretion, formed under the influence of the typhoid state. He exhibited the following varieties of this condition:

1. Sudden and nearly complete solidity. The lung friable, moist, and infiltrated with purulent matter.

2. A similar condition, with an extensive dark coloured, gangrenous cavity, communicating with the bronchial tubes.

3. Small gangrenous cavities not communicating with the tubes.

4. Rapid solidity, with considerable *induration* of the lung.

In many of these cases, the change from permeability to solidity takes place in the course of a few hours. (*Museum, Park-street.*)

3. *Inflammation of the Larynx, induced by caustic Ammonia.*—Mr. Cusack presented the recent larynx, trachea, and lung of a child who had swallowed a quantity of water of caustic ammonia; in the course

of some hours, symptoms of inflammation intervened, not, at first, of a very alarming nature; upon the following day, however, violent paroxysms of dyspnœa came on; the operation of tracheotomy was performed, and was followed by a temporary alleviation of the symptoms, but the infant died in convulsions in twenty-four hours. No traces of inflammation in the mouth or fauces existed; there was some vascularity upon the extremity of the uvula: the posterior and lateral walls of the pharynx presented marks of active inflammation; the epiglottis was crisped, but not œdematous; the whole surface of the larynx was of a bright red colour and presented a mottled appearance, which seemed to depend upon an infiltration of the submucous tissue, with a semi-opaque lymph, none of which existed on the free surface of the membrane: the lungs were infiltrated, and in many places consolidated. (*Museum, Park-street.*)

5. *Internal Strangulation of a Portion of Intestine, through an Opening in the Mesentery.*—Dr. Hutton exhibited the recent parts in this case. The patient, a man aged 60, had suffered from constipation for seven days; and three days previous to his admission into hospital he had been attacked with symptoms resembling those of colic. When admitted he was in a state of collapse, and the abdomen was tympanitic, but not painful. He had stercoraceous vomiting and a scanty secretion of urine. He died on the day following. The entire of the intestinal canal, with the exception of a small portion of the ileum, near the cœcum, was found greatly distended, and an oval aperture, measuring two inches in its long diameter, was discovered in the mesentery, through which a coil of the ileum had passed, was twisted upon itself, and compressed by the margin of the opening. The intestine, in this situation, was of a dark slate colour. Dr. Hutton alluded to a case of diaphragmatic hernia delineated by Cruvelhier, in which the strangulation of the intestine was effected by a portion of the mesentery which had been twisted round it. (*Museum, Richmond Hospital.*)

6. *Tubercles on the internal Surface of the Dura Mater.*—Dr. Lees exhibited a preparation shewing a tuberculated state of the dura mater taken from a child, who had died of hydrocephalus supervening on remittent fever. A large quantity of fluid existed in the ventricles, and the pia mater covering the left hemisphere was studded with minute tubercles. Tubercles were also found on the membranes at the base of the brain. The child died with convulsions.

7. *Hypertrophy of the Heart, with Rupture of the Mitral Valves.*—Dr. Stokes presented the heart of a boy, aged fifteen, who had long laboured under symptoms of morbus cordis: he was admitted into the Meath Hospital, for a violent attack of pneumonia, affecting principally the left lung; the heart's action was excessively violent, and accompanied by an intense bellows murmur; the symptoms were somewhat relieved by bleeding, but a fresh attack of inflammation intervened; in the course of which, the patient was suddenly attacked with a dreadful aggravation of dyspnœa and distress in the region of the heart, under which he rapidly sank. The mitral valve was found extensively ruptured, many of the tendinous cords broken across, and

one of the valves lacerated through its whole extent; the valves appeared to have been for some time in a diseased state, being indurated and thickened. (*Museum, Park-street.*)

Eleventh Meeting, February 16.

MR. COLLES in the Chair.

1. *Extreme Contraction of the Chest consequent upon Empyema.*—Dr. Mollan exhibited a cast of the external appearances in this case; he also laid before the meeting a skeleton of the patient, a girl, aged about 20, who had been deaf and dumb: she was admitted into the Whitworth Hospital on the 12th of January last, with symptoms of empyema of the left side, the heart being displaced to the right; between the fifth and sixth ribs an opening existed, from which matter was discharged in large quantities; the right lung was healthy, but the left was completely carnified, and reduced to one-sixth of its natural bulk; the liver was much enlarged, and the intestines presented traces of increased vascularity; the opening in the chest had existed for upwards of three years. She sank from diarrhœa. During the whole course of the disease, there was no remarkable distress of respiration.

2. *Congenital Dislocations of the Shoulder Joint.*—Mr. Smith exhibited four specimens of congenital luxation of the head of the humerus; but it is unnecessary to give a particular account of this communication, as Mr. Smith's essay upon the subject is to be found in full, in the preceding pages of this number of the Journal.

2. *Diffuse Inflammation in a Puerperal Woman. Separation of the Sacro-iliac Articulation.*—Dr. Evory Kennedy wished to draw the attention of the society to this disease. In some cases the disease came on a few days after confinement, attended with a low fever and violent pain: in two cases which had lately occurred, the patients died on or before the third day, and the bones of the pelvis were found separated to a slight extent, particularly at the sacro-iliac symphysis, and there was purulent effusion into the hip joint and surrounding cellular tissue. In these cases the disease was not marked by any external appearances. In others, the disease was more protracted, and the affection was not limited to the sacro-iliac articulation, but was met with in the hip, knee, elbow and ankle joints. With reference to the connexion between this affection and phlebitis, Dr. Kennedy exhibited the uterus of a patient, in whom almost all the large joints of the body had been engaged; the uterus was quite healthy, and there was no trace of inflammation in any of the pelvic veins; he exhibited numerous preparations and drawings, illustrative of this disease, and shewing different degrees of inflammation and ulceration of the cartilages. Dr. Kennedy observed that the soft parts seldom partook of the ulceration, but exhibited a specimen in which a large abscess had formed in the nates. (*Museum, Lying-in Hospital.*)

4. *Acute Inflammation and Ulceration of the Larynx, occurring with the Symptoms of diffuse Inflammation.*—Dr. Law exhibited the larynx and trachea in this case, together with drawings of the external appearance of the patient. A young woman, æt. 26, was

admitted into Sir Patrick Dun's Hospital, complaining of pain in the shoulder and side, and exhibiting the signs of pleuro-pneumony of the right lung; she had also distressing pains, resembling rheumatism, in various parts of the body; these became of a more decidedly arthritic character, and in about five days an eruption, resembling that observed in cases of glanders, made its appearance. Upon the following day, the patient complained of sore throat and dysphagia: symptoms of acute laryngeal inflammation set in, and she died on the ninth day. The mucous membrane of the epiglottis was thickened, and in the upper portion of the larynx and also in the trachea, there were numerous ulcers, with thickened, red, and irregular edges. Dr. Law stated that he had observed five cases in which this ulceration of the larynx had occurred; and he wished to draw the attention of the society to the remarkable liability to this affection of the larynx, in cases of diffuse inflammation and phlegmonoid erysipelas. Pustules, resembling those on the integuments, were also found on the surface of the lung, where also an adhesion of the pleura had occurred. Large depots of a greenish purulent matter were found in various portions of the subcutaneous and muscular tissues.

5. *Fragilitas Ossium*.—Mr. Smith laid on the table the bones of the upper and lower extremities, with a portion of the pelvis of a woman advanced in years, and who had been bedridden for eight years previous to her death. Many of the bones had been fractured during life, from very trivial causes. The lower extremity of the radius had been broken, close to the epiphysis, and had united, but with considerable deformity. The neck of the right femur was also broken, within the capsule, but here there was no attempt at union. The neck, and a large portion of the head of the bone, had been absorbed. The bones were extremely thin and diaphanous, and contained a large quantity of oleaginous matter, of a yellow colour. The compact structure had been reduced to so thin a lamina, that the bones admitted of being easily cut with a scissors; and when thus opened a great quantity of a semi-fluid fatty matter oozed out. The patient had never complained of pain. (*Museum, Richmond Hospital.*)

Twelfth Meeting, February 23rd.

MR. CARMICHAEL in the Chair.

1. *Extensive Cancerous Disease of the Stomach, Rupture of the Stomach, Peritonitis*.—Mr. Cusack exhibited a specimen of cancerous disease of the stomach, taken from a patient who had never complained of symptoms referrible to gastric disease; but who, on the contrary, had followed his usual avocations to within a short period before his death. He was admitted into hospital three weeks before that event occurred, labouring under obscure symptoms of abdominal irritation and ascites. When the ascites had been in a great measure removed by treatment, an epigastric tumour became perceptible, but still the patient did not complain of any pain, neither had he vomiting nor loss of appetite. The *post mortem* examination showed that there was no disease of either orifice of the stomach, but a vast can-

cerous tumour occupied the body of the viscus ; and a perforation had taken place in the lesser curvature, through which the contents of the stomach had made their way into the peritoneum, and caused peritonitis. No morbid vascularity of the lining membrane of the stomach existed. (*Museum, Park-street.*)

2. *Peculiar Distention of one of the Semilunar Valves of the Aorta, with dissecting Aneurism of the Aorta, engaging the Ventricular Septum.*—Professor Harrison exhibited the heart of a female who had laboured for a considerable time under symptoms of morbus cordis. She died in an attack of pulmonary apoplexy. The lungs were greatly congested, and presented patches of extravasation. The pericardium was adherent, and the left ventricle greatly thickened and enlarged ; some firm cartilaginous tubercles were found in its substance. The aorta was extensively diseased, presenting earthy and atheromatous deposits in various states. But the condition to which Professor Harrison begged to direct the attention of the Society, was that of the aortic valves, one of the divisions of which was dilated into a pouch, into which the finger could be passed for more than a quarter of an inch. The sac thus formed was exceedingly thin, and the valve was incompetent to close the orifice. To this condition Professor Harrison would give the name of *valvular aneurism*.

In the same heart another lesion had occurred ; corresponding to one of the fibrous roots of the aorta a small aneurism existed, making its way downwards along the septum cordis, and taking a direction towards the right ventricle, into which, had the patient lived longer, it would in all probability have burst. (*Museum Trinity College.*)

3. *Hydatids in the Ovum.*—Professor Montgomery presented a recent ovum containing numerous hydatids. The ovum had been discharged in the fourth month of utero-gestation, without any rupture of the decidua, the patient having been previously attacked with uterine hæmorrhage.

There were one or two circumstances connected with this preparation on which he wished to make a few observations. It has been generally stated in books, that one of the distinguishing marks between a gestation in which the contents of the ovum are hydatids, and gestation of the ordinary kind, is that no motion is felt at the usual period. This case was an example of exactly the reverse, for not only was the motion felt, but it was felt before the ordinary time of quickening. It is not usual to feel any motion at the end of three months and a half ; but in this lady's case, the motion was pointed out to Dr. Montgomery by the patient herself, on several occasions, as distinctly felt. She described it, however, as unlike the ordinary foetal motions ; it was not, she said, a pulse or stroke such as she had felt in former pregnancies, but a kind of sliding motion. This fact was interesting on many accounts. In the first place motion had been distinctly felt, and yet, there was no foetus in utero ; and this had occurred about the middle of the fourth month, when motion is not usually felt. In the next place, it might be interesting to those who maintain the animality of hydatids ; for in this case, the sliding

motion had been felt by the lady very frequently, and she had directed Dr. Montgomery's attention to it at his morning visits. Again, it generally happens, that uterine hydatids are separated from their natural connexions during the expulsion of the ovum, and that it is consequently impossible to ascertain their mode of growth or attachment, as in the specimen before him, which was a beautiful preparation of uterine hydatids, taken from the Museum of Park-street School; but it would be difficult to say from an inspection of it how they grew, or to what portion of the uterine contents they were attached. Dr. Montgomery said, he had his mind made up for a long time as to their origin, mode of attachment, and growth; but it was satisfactory to be able to demonstrate it, as shown by the preparation then exhibited. In the early stages of the growth of the ovum, the outer of the two transparent membranes, or chorion, is covered with a great number of villous processes, by which the ovum is attached to the decidua reflexa, and it is from these processes that the hydatids are produced. The ovum was completely covered by the decidua reflexa; but when this was turned back, the hydatids were seen growing from the villous surface of the chorion. Dr. Montgomery here exhibited the villous surface of the chorion with the hydatids attached to it, and observed that there was another peculiarity in their mode of attachment and growth worthy of notice. At first, one or two sprung from a single, fine, thread-like stalk; then, from these, one or two more, and so on, until at length, a large bunch of hydatids are formed, hanging from the chorion by the original delicate single stalk.

4. *Purulent Cysts in the Heart*.—Mr. Ferrall, in drawing the attention of the Society to this disease, alluded to the specimen of the affection already presented by Mr. Bigger.

In the case now before the meeting, the heart was remarkably hypertrophied, and contained numerous cysts; most of them of the size of a bean, while some were as large as a walnut. These cysts were attached to the internal surface of the right and left ventricles of the heart and also the auricles; some contained purulent matter, others were filled with a substance exactly resembling the fibrin of blood; while in a third class the substance seemed intermediate between fibrin and purulent matter; one of the cysts contained nearly two drachms of pus. Mr. Ferrall considered that the purulent matter resulted from the gradual softening of the coagulum. The internal surface of the cysts had a villous appearance.

The patient, an adult male, had been admitted into St. Vincent's Hospital five months since, labouring under an attack of pleuritis, and also presenting symptoms of hypertrophy of the heart, anasarca, and ascites; he had also hæmoptysis with albuminous urine; under treatment the pleuritic symptoms disappeared, and the urine ceased to be albuminous, but the dropsy returned and soon proved fatal.

There were no symptoms or physical signs of this peculiar condition of the heart; a gangrenous cavity existed in the upper portion of one lung containing a slough surrounded with purulent matter; ■

large portion of the spleen exhibited a deposit of a yellowish white substance, as it were the fibrin of the blood. (*Museum, St. Vincent's Hospital.*)

5. *Granular Kidney, Absence of Albumen in the Urine.*—Dr. Corrigan exhibited the kidneys in this case; they were of a pale yellow colour, nearly bloodless, and with remarkable atrophy of the cortical tissue.

In this case the patient was but four days in hospital, where she died with symptoms of acute disease of the brain. Various tests had been employed to discover the presence of albumen in the urine, but all had failed. Dr. Corrigan suggested that the existence of an acute disease of the brain might possibly have suspended the formation of albumen. (*Museum, Digges-street.*)

6. *Croup of the Bronchial Tubes.*—Dr. Corrigan presented a specimen of this disease. The false membrane extended from the larynx to the most minute bronchial tubes, and consisted of several layers having a firm consistence. In this case the patient was attacked with the first symptoms of disease but forty-eight hours before death. (*Museum, Digges-street.*)

7. *Aneurism of the Aorta, compressing the Trachea.*—Dr. Corrigan presented an aneurism of the arch of the aorta, which had compressed the trachea, and produced a train of symptoms resembling those of laryngitis; *but there was no affection of the voice.* When the stethoscope was applied over the upper part of the sternum, there was heard a loud sonorous stridor, which was not by any means so perceptible when the instrument was not used. Dr. Corrigan stated, that this circumstance, connected with the condition of the voice, would serve to throw light on the diagnosis between acute laryngitis and aneurismal tumours compressing the trachea. (*Museum, Digges-street.*)

8. *Phlegmonous Abscess of the Lung in Process of Cure.*—Dr. Corrigan likewise presented an example of phlegmonous abscess of the lung, taken from a patient who suffered from pleuro-pneumonia seven weeks previous to his death; he recovered in a great measure from this attack, but a slight hæmoptysis continued to recur daily; an excess in regimen was followed by a severe hæmorrhage, which proved rapidly fatal; the lungs were healthy, with the exception of the left lung, where an abscess of about the size of a walnut lined with coagulable lymph existed; it communicated with a large bronchial tube; this abscess and the neighbouring bronchial tube were found filled with some coagulated blood; there were no traces of tubercle in any portion of the lung. (*Museum, Digges-street.*)

9. *Tubercles in the foetal Lung, in a State of softening.*—Dr. E. Kennedy presented the tubercles of a foetus which had never breathed, shewing tubercles in the crude and also softened state; they were of various sizes, some as large as peas, and dispersed through various portions of the organ. (*Museum, Lying-in Hospital.*)

Thirteenth Meeting, March 3.

Sir PHILIP CRAMPTON, Bart., in the Chair.

1. *Displacement of the Foot outwards, with Fracture of the Fibula.*—Professor Harrison exhibited a specimen of severe injury of the ankle joint, which had occurred a considerable time before the death of the patient; the joint was increased in breadth and the lower extremity of the tibia directed downwards and inwards; there had also been a fracture of the fibula, and the fibulo-tarsal ligaments appeared to have been ruptured, for the lower extremity of the fibula rested chiefly on the os calcis; traces of fracture of the internal malleolus were discovered. The accident appeared to be very similar to the dislocation of the foot outwards and upwards described and delineated by Dupuytren; there was great hypertrophy of the bones of the leg; the muscles were wasted, and the bones contained a large quantity of oil; there was a very limited degree of motion in the joint, and the patient walked on the toes with the heel raised. (*Museum, Trinity College.*)

2. *Congenital Umbilical Hernia.*—Mr. Speedy presented to the Society an example of congenital umbilical hernia in a new born infant; the protruded intestines were contained in a sac formed by an expansion of the membranes of the cord, which were distinctly continuous with the integuments of the abdomen; there was a considerable deficiency of the parietes of the abdomen. During life the peristaltic motion of the intestine could be seen through the transparent sac, which contained a portion of the liver and spleen with several coils of small intestine. The child lived about fourteen hours.

3. *Dislocation of the Metatarsus and internal Cuneiform Bone backwards and upwards upon the Tarsus.*—Mr. Smith presented a cast with drawings and preparations illustrative of this very rare accident, the diagnostic signs of which were a remarkable foreshortening of the foot, without a corresponding elongation of the heel; a prominence upon the dorsum of the foot placed transversely about two fingers' breadth from the ankle joint; a depression behind this prominence, and a remarkable alteration in the sole of the foot, the arch of which was destroyed, and a convexity presented instead of a concavity. The anatomical characters of the injury in the two specimens exhibited were as follows: the bones of the leg, the os calcis, the cuboid, navicular, external and middle cuneiform bones, and the astragalus had all passed downwards towards the sole of the foot, producing the convexity mentioned above, while the metatarsal and internal cuneiform bones were driven upwards and backwards on the dorsum of the foot.

In the two cases which Mr. Smith detailed, the injury had occurred many years before death, and the preparations showed remarkable provisions against the further displacement of the bones. From the upper surface of the cuboid bone, there was an osseous ridge thrown up, which prevented the metatarsal bones from passing

further backwards, while a similar process had been formed upon the under surface of the posterior extremities of the metatarsal bones, against which the tarsal bones rested. (*Museum, Richmond Hospital.*)

4. *Fracture of the Vertebra, with Laceration of the Spinal Cord.*—Mr. Adams exhibited a specimen of fracture, which traversed the body of the fifth cervical vertebra, taken from a boy, aged eighteen, who, while wrestling on the platform of a lime kiln, in a state of intoxication, fell from the height of twenty-five feet to the bottom of the kiln. On admission into hospital he was in a state of insensibility, but after some time recovered his consciousness; and it was then discovered that from the sixth cervical vertebra downwards, he had lost all sensibility, but not completely the power of motion. The patient died in forty hours after the receipt of the injury. In addition to the fracture already mentioned, there was found a copious effusion both external to and within the sheath of the cord. The spinal marrow corresponding to the fracture presented anteriorly a deep red colour, and highly congested appearance: it was quite softened, and posteriorly had suffered a complete laceration of its fibres. The injury corresponded exactly to the line of demarcation between the sensible and insensible parts of the body. The ligamentum posticum was not broken, neither was the sheath of the cord injured. The mucous membrane of the bladder presented the appearances of incipient inflammation. In addition to the injury of the spine, there was also an extensive fracture of the cranium, with effusion of blood upon the dura mater.

5. *Fracture of the Odontoid Process.*—Mr. Adams likewise exhibited a specimen of fracture of the second cervical vertebra. The odontoid process was broken off, producing fatal pressure of the spinal cord, and instantaneous death.

6. *Fracture of the Cervical and sixth Dorsal Vertebrae.*—Mr. Adams presented a preparation showing two fractures of the vertebral column. The patient was admitted into hospital with the characteristic signs of injury of the spinal cord in the lumbar region. She survived twelve days. There was great embarrassment of breathing, which, however, did not occur till the eleventh day. For the first few days after the injury, she enjoyed the full power of the upper extremities; this, however, gradually diminished. Upon examination, *post mortem*, a fracture of the dorsal vertebra was found; opposite this the spinal cord was torn across. In the cervical region was discovered a second fracture, opposite to which the spinal marrow was extensively softened and disorganized; a fact interesting as connected with the distress of respiration supervening at an advanced period of the case. (*Museum, Richmond Hospital.*)

7. *Icterus Infantum.*—Dr. Lees presented the abdominal viscera of an infant five days old, who was brought to the Pitt-street Dispensary in a dying state. The child had been fed on bread and milk for the first four days, and was not suckled till the day on which it was brought to the dispensary. On this day it had become suddenly jaundiced, and

vomited about a tablespoonful of blood. The lungs were greatly congested, and sank in water. The pericardium was yellow, and contained two drachms of a fluid as yellow as bile. The right cavities of the heart were large, and contained a quantity of grumous blood. The liver was much congested, but otherwise natural, and the stomach contained curdled milk, mixed with what appeared to be grumous blood. The mucous membrane of the duodenum was highly injected and pulpy, and no obstruction existed in the biliary or pancreatic ducts; there was nothing remarkable in the rest of the tube. Dr. Lees observed that the disease was not that described by Lobstein under the name of *cirronosis*, which, according to that pathologist, is confined to the serous membrane. And the case appeared also important as controverting the opinion of Billard, Andral, and other pathologists, who supposed the *icterus infantum* to arise merely from the change from tegumentary congestion to the natural condition, without referring it to any pathological change of the liver, or the surface of relation with which it is in connexion.

8. *Aneurism of the Arteria Innominata*.—Dr. Stokes was happy to present this preparation, as it bore on the observations made by Dr. Corrigan at the last meeting, with reference to the phenomena of voice in cases of aneurismal pressure on the windpipe. In this case the pressure was extreme. There was no dislocation of the clavicle. The trachea was extensively displaced, and folded upon itself. In this case the voice was altered in a remarkable manner, but different from what is commonly observed in true laryngeal disease. The tone and character of the voice were scarcely two days the same, varying from the deepest bass to a shrill treble, or becoming almost extinct. (*Museum, Park-street.*)

9. *Contamination of the Fœtus by Venereal Poison*.—Dr. E. Kennedy observed that he had already exhibited to the Society a fœtus with discoloration of the skin and separation of the cuticle, whose mother was syphilitic. He begged to lay before the Society the body of an infant whose mother had venereal condylomata. The skin, particularly about the buttocks, was much discoloured. The disease subsequently spread to the ham and thighs; and the child died in about six weeks after birth.

Dr. Kennedy likewise exhibited the body of another child whose mother had secondary symptoms. Her husband had died of syphilitic laryngitis. It was born with desquamation of the cuticle of the hands and feet; but soon lost all the characters of the disease. Dr. Kennedy exhibited drawings showing the appearances of the eruption in the mothers of these children. (*Museum, Lying-in Hospital.*)

10. *Malformation of the Aortic and Pulmonary Valves*.—Dr. Russell exhibited a heart presenting a remarkable condition of the aortic valves. But two valves could be discerned: they were of considerable length, and were indurated at their bases. The orifice of the valve appeared as a well defined slit. In the pulmonary artery there existed four distinct valves, each furnished with sesamoid bodies, and

perfectly healthy. The patient was seventy years of age, and had died of pulmonary hæmorrhage.

Fourteenth Meeting, March 9.

DR. GRAVES in the Chair.

1. *Fracture of the Acetabulum and horizontal Ramus of the Pubis, followed by Chronic Inflammation of the osseous Tissue.*—Mr. Palmer exhibited a drawing of the appearance of the hip joint and pelvis in this case, which, in his opinion, was one of fracture of the bottom of the acetabulum and horizontal ramus of the pubis; the individual from whom the parts were taken had been thrown from the top of a coach, ten years previous to his death. There was an opening of considerable size in the bottom of the acetabulum, and a remarkable irregularity of the horizontal ramus of the pubis, resembling a fracture which had united with deformity; the acetabulum was greatly increased in depth, and, along with the head of the femur, presented appearances which Mr. Palmer conceived to be the result of chronic osteitis.

2. *Aneurism springing from the Sinus of one of the Aortic Valves.*—Dr. Hanna exhibited a remarkable specimen of aneurism which communicated by a very small orifice with the sinus of one of the valves of the aorta; the aneurismal sac passed downwards into the external wall of the left ventricle, from which cavity it was separated by a very thin partition; the orifice of the sac was placed about four lines below the origin of the corresponding coronary artery; the left ventricle was hypertrophied, and the pericardium inflamed. The patient from whom the specimen was procured was aged thirty-one: he laboured under the general symptoms of heart disease; there was heard in the region of the heart a loud bruit de soufflet, amounting almost to bruit de scie; there was also orthopnoea and severe pain in the cardiac region. (*Museum, Park-street School.*)

Ulcerated Stricture of the Œsophagus.—Professor Harrison exhibited a preparation, shewing extensive ulceration of the Œsophagus, with stricture, amounting to an almost complete closure of the tube. The patient (a female) had not applied for advice until within a few days of her death; she was unable to swallow either fluids or solids, and life was supported by injecting port wine into the stomach through a tube, in passing which considerable difficulty was experienced about the centre of the Œsophagus; this point once passed, the extremity of the tube could be moved freely; but still there was reason to suppose that the injected fluid did not reach the stomach. Upon examination, *post mortem*, the stomach was found contracted, and the lower third of the Œsophagus was hard and thickened; it adhered to the left bronchial tube. At the part where the stricture commenced the walls were in such close apposition that a probe could not be passed without the employment of force; below this the ulcerative process had formed a large cavity, at the lower extremity of which the tube was again contracted; the walls of this cavity were at

one point remarkably thin: there were thus two strictures, with an intermediate pouch, into which the fluids had passed when introduced by the tube; the walls of this intermediate pouch had at one point been completely destroyed by ulceration, but the opening was stopped by a bronchial gland, which adhered to margins of the aperture. (*Museum, Trinity College.*)

4. *Disease of the Mitral Valve, without valvular Murmur.*—Dr. Stokes presented a specimen of disease of the mitral valve. It was principally remarkable on account of the physical phenomena observed during life. In this case the patient had long laboured under symptoms of morbus cordis with chronic bronchitis; and when the first was seen by Dr. Stokes, had a distinct and rough bruit de soufflet with the first sound of the heart. The second sound was unaffected. He remained under observation for several months, and always presented the same phenomena. In eighteen months he again came under Dr. Stokes's care, in a very advanced stage of dropsical disease. All bruit de soufflet had disappeared, and the heart merely presented the usual signs of hypertrophy. He died in about a month, during which time he was repeatedly examined, but no valvular murmur was ever detected; the heart was much enlarged; the left auricle greatly distended and thickened; the auriculo-ventricular valve was greatly diseased, and the orifice presented the semilunar contraction described by Mr. Adams; the opening was not more than two lines in breadth; numerous irregular deposits of earthy matter existed on the ventricular side of the valve. Dr. Stokes detailed the particulars of another case, in which a remarkable auricular contraction of the mitral valve had been found, in which no bruit de soufflet whatever had existed for a considerable time previous to death.

5. *Diaphragmatic Pleurisy.*—Dr. Stokes presented the lung of a man who died with pleuritis of the lung. The diaphragm and concave surfaces of the lung were studded over with minute granulations of remarkable hardness. A distinct portion sound produced by the impulses of the heart against the lung was the principal physical sign in this case. (*Museum, Park-street.*)

6. *Impressions of the Ribs on the Lung.*—Dr. Stokes exhibited a drawing of this appearance, illustrative of the change into an adipose tissue of the lymph corresponding to each rib, while the intervening portions were converted into transparent serous membrane.

7. *Peculiar Alteration of the Ovary.*—Dr. Thomas Beatty presented a human ovary converted into a cluster of globular bodies of various sizes, and of a consistence resembling cartilage. Inferiorly was a cell originally filled with fluid; in the opposite ovary a similar disease seemed to be commencing; the natural texture had nearly disappeared, and the organ exhibited a congeries of granular bodies, giving it a cauliflower-like appearance. The specimen was also interesting as illustrative of the combinations of disease in the uterine system. A polypus of considerable size hung by a pedicle from the fundus uteri; it was of the soft cellular kind. The patient was an old woman, and Dr. Beatty had no opportunity of ascertaining what the symptoms had been. (*Museum, Park-street.*)

PROCEEDINGS OF THE DUBLIN OBSTETRICAL
SOCIETY.—(CONTINUED.)

November 11th.

Dr. KENNEDY in the Chair.

The President having concluded his Introductory Address, Dr. Doherty read a paper on the Sympathies of the generative Organs of the Female. He pointed out how necessary is a study of the law of sympathy, as the symptoms to which it gives rise are often of great utility in calling attention to the existence of disease, that otherwise might escape detection, and on the other hand are liable, in many instances, to mislead us while searching out the true seat of the morbid cause : facts, which are particularly exemplified in the many remarkable affections to which functional or organic changes in the uterine organs give rise. Having noticed the peculiarities of the female sex he shewed that they depend upon the activity and development of the sexual system. He divided the sympathies of the uterus into the continuous and the remote, the former giving rise to the close affinity which exists between the whole generative apparatus, and the latter extending to every system in the body, and after the period of puberty being continually in active operation in health and in disease, in the unimpregnated state, and particularly while engaged in the process of reproduction, of parturition and lactation. He then detailed the most striking examples of sympathetic influence having its salient point in the uterus, noticing firstly the changes effected in the mammæ, which constantly associate with alteration in the condition of the womb, and indeed constitute a direct part of the sexual system ; then the variations thus produced in the state of the chylopoietic organs, as exemplified in the unnatural condition of the tongue, the greenish hue of the countenance, and oily state of the surface in chlorosis, in the irritability of the stomach and discharge of its contents either in their simple state, as in morning sickness, during the dilatation of the os uteri, &c. or in the form of coffee-grounds on the occurrence of rupture of the womb : and on other occasions in the disturbance of the function of the liver and lower bowels, giving rise to costiveness or diarrhœa, unnatural fæcal discharges, retraction of the sphincter, or tenesmus. As one of the strangest departures from healthy action arising from this cause, he pointed out the visiated tastes occasionally met with, and detailed a case within his own knowlege, the subject of which was a lady, at other times particularly delicate in her appetite, who was during two pregnancies, between which several intervened, a prey to a morbid desire to eat soap. At the termination of each of these pregnancies, she, strange to say, brought forth a male child, while the result of every other conception was a female ! He then noticed how liable the peritonæum is to sympathise with the uterine organs on certain occasions when inflammation or other organic disease exists in the uterus, taking on an inflammatory action without any direct extension of the original malady, and when that organ is

merely in a state of irritation becoming the seat of nervous excitement, marked by exquisite torture on the slightest touch, which, however, is relieved by deep and extensive pressure. The sympathy of the urinary apparatus with the generative system, he illustrated by the rapid secretion of urine during a hysteric paroxysm, and by the dysuria, or retention of urine symptomatic of diseased states of the os uteri, or its changes during parturition.

He next invited the attention of his auditors to the peculiarities of the blood in the female, and her consequent liability to such affections as are attended with pallor or œdema, and to dropsical and even hæmorrhagic effusions. The sympathy of the circulatory organs with the uterus, he exemplified in the palpitation and irregular pulsations so troublesome to hysteric females; in the occurrence of syncope at the time of quickening, or as an alarming symptom in spasmodic contraction of the uterus or rupture of its parietes. To this cause he also assigned the vicarious discharges so commonly seen during the continuance of disordered menstruation and in some degree the altered conditions of the uterine secretion. The close relation of the respiratory and sexual system he manifested in the pain around the diaphragm or in the chest, at times the total loss of voice or cough simulating phthisis, which frequently accompany amenorrhœa; the high, panting respiration of hysteria; the sobs, the globus, and the alterations in the characters of the voice in that disease, to that resembling the crowing of a cock, or the stridulous sound of croup. As sympathetic effects of uterine disturbance upon the nervous system, which, in the female, is naturally excitable and of acute sensibilities, he noticed the state of universal irritation exhibited in the tremor of the chin in speaking, and the tremulousness on holding out the hand constantly seen in the derangement of the general health so well described by Dr. M. Hale; the occurrence of chorea about the period of puberty; and the hysteric and epileptic paroxysms which often owe their origin to this cause alone. He showed that even the functions and conditions of the brain are influenced by the generative organs, and so modified by them, as to possess characteristic distinctions in the two sexes; and proved by the effects of the depressing passions in producing amenorrhœa and sterility, and of joy and the elevated emotions in removing these states, that their sensibility is reciprocal. He pointed out how admirably fitted is the nervous system of the female to subject her to the softer passions; and that even in the sentimentality of affection, a corporeal orgasm, or generative nisus, intervenes and urges to the accomplishment of that great purpose so paramount in the continuance of creation. He described the state of melancholy self abandonment to which an obstacle to the indulgence of this desire sometimes give rise; and the high state of excitement and unbridled appetency in other cases, arising from the same cause, or from local irritation of the genitals. He then directed attention to the periods at which females are most liable to attacks of mania; and the effects of the depressing

passions in predisposing to it, as is so often seen in those mothers whose offspring has been has been so poetically termed

“A child of sorrow and of love
Baptized in beauty’s tear.”

He enumerated the symptoms of puerperal mania ; and alluded particularly to the strange alteration which so quickly occurs in the patient’s feelings, towards not only her friends, but even the babe “that milks her ;” and concluded with an eulogium upon a branch of medicine which enables us to become familiar with, and capable of relieving the diseases of beings with whom our sympathies are so inextricably interwoven.

Second Meeting, December 11.

DR. COLLINS in the Chair.

Dr. Collins, the President for the night, addressed the meeting with much effect. Taking occasion to impress upon the attention of the junior members the necessity of a diligent application to the study of midwifery, and the diseases of females ; and to caution them against unthinkingly undertaking such practice, without a really sound knowledge of these truly important subjects. Dr. Collins proceeded to remark, that there is no department of the profession more changed for the better within the last seventy or eighty years, and that so far as Ireland is concerned, none so much ; as previous to that period, this branch of practice was here far behind that both in England and on the Continent. But since that time, Irish physicians have not only practised with equal benefit to the public and credit to themselves, but, at the same time, contributed as largely to the spread of sound and useful knowledge as those of any other country.

Dr. Collins remarked, “Need I tell any individual in this Society, nay, I believe I might say, any physician who devotes himself to this department of the profession in any part of Europe, that we owe all to the establishment of our stupendous hospital, which was solely accomplished by the unexampled genius and zeal of a very poor Irish physician, Dr. Bartholomew Mosse.” The President then announced to the Society the intended erection of a magnificent lying-in hospital in Philadelphia, according to the directions contained in the will of another truly benevolent physician, Dr. Preston, lately deceased, who bequeathed no less a sum than 350,000 dollars for its endowment. Dr. Collins then exhibited a plan of the building forwarded to him for suggestions, which seems in every respect calculated to carry into effect the philanthropic intentions of Dr. Preston. The hospital, which the managers intend to denominate the Preston Retreat, in commemoration of its noble founder, will be opened for the reception of patients before the termination of the present year.

Dr. Dwyer, one of the Vice-Presidents of the Society, then read a paper on labour rendered tedious or difficult by certain states of the os uteri. Having pointed out the injurious consequences which follow

a premature rupture of the membranes, in producing unfavourable states of the soft parts, he informed the Society he wished to bring under their notice two conditions of the os uteri, which he would define as follows, premising that in either case it will be generally found that the membranes have given way, or been ruptured, at an early period; in the one the patient having been in labour for some hours, the os will be found situated, it may be, midway in the pelvis, or if lower down turned rather backward, and open to a space which might be covered by a shilling; its edge thin and smooth, as also the cervix, which is spread out over the head of the foetus without any soft intervening substance. It will, continues the author, be found at times so thin, that should the portion of the presenting part occupying the aperture of the os be void of hair, the whole mass may be, nay has been mistaken for some part of the foetus as having completely escaped without the os, which latter has then been sought for higher up in the vagina, but sought for in vain; it is to be detected at the lowest point of the tumour, and for the most part looking backwards. This mistake can hardly be made by practitioners of experience; but if even a junior be liable to fall into this error, a caution against it may not be deemed unnecessary. In cases of this description the perineum and external parts are more or less rigid, but not necessarily so; in some instances they are relaxed, the pelvis is for the most part roomy, and the pains characterized by an expression of suffering, without any evidence of benefit conferred, or advance of the labour. This state of things may continue for a longer or shorter time, and if persisting unrelieved the vagina will become hot, the secretions suppressed, the os become painful to the slightest touch, inflammation result, and the sufferings of the patient be most aggravated. It is to the relief of this case, previous to the now mentioned aggravation of symptoms, that I consider the exhibition of nauseating doses of tartar emetic, combined with a small proportion of opium, almost peculiarly applicable; as the patient, should the dilatation not have advanced more than barely to admit the finger's point, may be subjected for some hours to the nauseating effect of antimony, and then, having been well brought under its influence, given a full opiate with the best effects. Relaxation sets in, a relief of what may be truly termed unprofitable suffering is afforded, labour advances, and for the most part terminates favourably; should such measures not have been had recourse to, and heat with irritability of the parts set in, more active treatment, to be mentioned hereafter, will be required. Any attempt at mechanical dilatation of the os uteri here, no matter how long the patient may have been in labour, will be productive of ruinous consequences; the escape of the head through the os, as also its subsequent passage near the perineum, has been observed to be attended occasionally with a high degree of nervous excitement, amounting almost to an hysteric convulsive paroxysm.

There is another state of the os uteri not unfrequently met with, which when combined with other circumstances may be considered a cause of tedious labour. It is observed in patients of rigid muscular

fibre, of short stout make, whose general delineation would seem to be somewhat midway between the sexes. In this case the patient having been some hours in labour, the os is most frequently found high up at the inlet of the pelvis dilated to the extent of a penny piece or more; its edge thick, flesh-like, and unyielding, as also the cervix; a small portion of the presenting part will be, as it were, grasped by the gristly os; the perineum and external parts will be thick and tough, there will be an absence or deficiency of secretion, the pelvis not very roomy; the labour in this case will be characterized by violence, the patient rolling herself about in the bed, catching and pulling violently at whatever comes within her reach on the accession of each pain; her countenance will be flushed and turgid; in such cases, with first children, it is not uncommon to meet with severe and powerful convulsive paroxysms; the treatment in this case must be of a more bold and decisive character, and such as is likely to lessen muscular rigidity; V. S. pushed so as to produce an impression on the system will be necessary, after which the immersion of the patient in a warm bath, with, while there, the exhibition of tartar emetic; of course the state of the *primæ viæ* and bladder having been attended to. The relaxing effect of the warm bath has not at all received the attention it merits in obstetrical practice. I was applied to, to attend a female, now in the middle rank of life, but whose early history was that of own maid in some families of distinction: she was a shrewd, sensible woman; had travelled a good deal, and remained on the Continent while so attached, during three successive confinements of the lady with whom she was then living; she observed the warm bath to be repeatedly used previous to each, and with the avowed object of predisposing to relaxation: the labours turned out favourably, and were of short duration. This she thought a hint worth knowing, and though not then requiring the personal application of it, she treasured it up against a contingency to which almost every woman of almost every age considers herself to be one day or other liable. Some years after she did marry at the age of 37, in due time proved with child; and when I first saw her, I apprehended on her part a labour of protracted suffering, and on my own, an attendance of anxiety and fatigue. She was a low-sized woman, red haired, with short neck, stout built rather than large, apparently in rude health. She talked of the probable tediousness of her labour with the greatest *sang froid*, and consulted me as to the propriety of following out the relaxant plan she had seen practised abroad: I immediately consented, only interposing the occasional exhibition of castor oil. She used the bath several times during the month previous to labour, which, when it set in, advanced steadily and favourably, and terminated in twelve hours from the first dilating pain, without her having undergone any remarkable suffering.

There seems to be in these countries, and it is difficult to say why, some unaccountable objection to the use of the bath. In cases of rigidity it is, however, a very valuable adjunct, and is extensively

used with best effects in Continental practice. Much benefit may also be derived from its frequent employment during the last month of pregnancy, especially in patients of this description, who have married late in life. In having recourse, however, to this agent, when the patient is in actual labour, she should be carefully watched, lest faintness come on, when she must be instantly removed to her bed. Care should also be taken that the expulsion of the child do not take place in the bath.

Should the measures above mentioned, such as V. S., the warm bath, tartar emetic, though they may have lowered the system generally, yet not have succeeded in inducing relaxation of the os uteri, it may be asked, what next is to be done? Many measures have been suggested to effect this desirable object, such as fomentations, the application of unctuous substances to the vagina generally; the application of extract of belladonna directly to the os uteri. This latter I have seen tried frequently, but cannot say much in its favour, though the deleterious effects of this drug were in part produced. The repeated exhibition of enemata of ipecacuan seems to have occasionally succeeded; but as where the result proved favourable, vomiting has been induced, it would seem to act in the same manner as the tartarized antimony, but not producing such a depressing effect. The knife even has been used on the Continent, but in this country we do not think such a measure justifiable. In such cases of obstinate resistance, I have observed the application of from six to twelve leeches to the os, especially if it be hot and dry, to have been followed by very considerable benefit. This can be done by the aid of the speculum, by means of which they can be applied to any defined part, and so prevented fastening upon the foetal head. The os, in the cases alluded to, is found, as I have said, thick and unyielding, in some instances more fibrous than natural, and in others it would appear as though it were flesh-like, swollen, and the seat of congestion, if not of œdema. Leeches, when applied here, take with surprising rapidity, and, in general, the flow of blood, after their having sated themselves, is copious. This is a practice which, in such cases of difficulty, will, I hesitate not to say, by no means disappoint the prescriber. There will not be any difficulty in inducing the patient to submit to such a mode of relief, as she is, under such circumstances, generally clamorous for interference; and though she may not be so, she will have confidence sufficient in the professional man she has selected to assist her through nature's struggle, to offer an unresisting acquiescence to whatever measures he may suggest for the alleviation of her sufferings.

A difficulty and protraction of labour is sometimes met with, arising from what may be considered a partial degree of rigidity or unwillingness to yield on the part of a portion of the os uteri. When this is observed to occur, it is generally found to be the anterior lip that is engaged, and appears to me to admit of the following explanation. The pelvis is not in this case very roomy; the dilatation has

not been completed before the head becomes engaged in its brim. The anterior portion of the os uteri is forced down unrelaxed between the head of the foetus and the os pubis, where the head at first generally rests; and though the natural effect of each successive pain would be to complete the dilatation of the os uteri, and so enable the head to escape from its grasp, this is not allowed to take place, the lip of the os being held almost as it were in a vice, the consequence of which not unfrequently is, as we shall hereafter shew, a state of oedema of this part; and if the difficulty or cause of arrest evade the discernment of the attendant, a protraction of the labour, and a series of fruitless efforts at expulsion to terminate it, may be in exhaustion or delivery by the perforator. In cases of this kind, that is, when a portion of the os uteri, having descended before the head, is detained in this situation by being pressed between the head and bony pelvis, the sufferings of the patient are severe. The pains will occur with regularity, but there is something in this character that will demonstrate their ineffectiveness; that will, as it were, declare their inability of themselves to overcome the difficulty. They come on at first with a powerfully expulsive tone, but soon terminate in an outcry of suffering, as though in disappointment and despair. The cause of this is, I think, pretty clear. The entire force of uterine action tends, under ordinary circumstances, by contracting on the body of the foetus, to propel its globular head against the whole circle of the os uteri, and thus protrude it; but there is now found to be a point where a resistance external to the os is afforded, and that too by pressing this nervous and irritable part between two unyielding substances; the consequence of which is that the irritation thus produced reacts, and though it may not prevent the regular return of the pains while the strength remains good, yet tends powerfully to render them less prolonged, less expulsive, and greatly to diminish their efficacy. That such a degree of irritability exists in the os, and more especially the cervix uteri, and that the sympathy with these parts is powerful, we find sufficiently evidenced by the more frequent occurrence of convulsions, during the first stage of labour in primiparæ, as also the great degree of excitement, at times amounting almost to a temporary delirium, frequently noticed when the head is clearing this region; and the difficulties not unfrequently met with by the practitioner, and the great pain experienced by the patient in overcoming the spastic contraction of this portion of the uterus, when after delivery it has been found necessary to remove an adherent placenta, or introduce the hand for the purpose of arresting an alarming hæmorrhage.

But to return to my more immediate subject: when a portion of the os and cervix uteri is thus forcibly detained, much relief can be afforded by keeping a couple of fingers pretty firmly fixed against it during the pain, so as to prevent its being pushed further down. This manœuvre should be practised during each successive pain, and it will be found, that if judiciously carried into effect, the imprisoned portion

will after two or three pains escape, and the head descend below it. It has been objected to this mode of proceeding that the keeping the fingers within the vagina during the time necessary to effect this will induce of itself a state of heat and irritation, and thus add to the difficulty. It has therefore been suggested and carried into effect to return that portion of os uteri, and prevent its subsequent descent by a piece of sponge passed up after it. This may be the better mode when the portion protruded is large, and its being returned may be effected without difficulty; but we must carefully recollect that this portion is not relaxed equally with the remainder of the circle of the os, and that the irritation to which it has been subjected by its previous confinement here will necessarily render it more liable to suffer injury from a less degree of force than might be exercised with impunity under other circumstances. On the whole, I am of opinion, that the fingers of careful practitioners will afford the safest support we have. Nor have I found the time required for carrying such manipulation into effect so considerable as to lead me to apprehend any such unpleasant consequences. When the lip has been long so situated before it may have attracted the notice of the attendant, I have said it may become oedematous; this will become evident to the finger by its pitting under pressure. I have seen it under such circumstances brought into view without much difficulty, being swollen and of a slate colour almost resembling a polypus, as the circulation in this part had been quite interrupted. When this oedema exists, considerable relief will be obtained before attempting its reduction by puncturing with a lancet as you would an anasarctous extremity—a quantity of bloody serum exudes with diminution of the swelling. Under these circumstances it will be well not to attempt at the same moment to reduce the whole of the protrusion, but to begin at either extremity, and so proceed till the whole has been reduced. In such a case I can well conceive the subsequent passing up of a piece of sponge highly serviceable. It is surprising in moderate cases of this kind, that is, where it has not amounted to oedema, how rapidly, on the effectually supporting this depressed portion of the os uteri, when once it begins to escape above the head, the latter descends; so as in some cases, where the labour had been for hours arrested by this cause, on its successful removal it has been terminated favourably within some minutes.

On examining such cases within a few hours after delivery, the lip of the os is found more or less dependent, in some instances so large as to have been for a time supposed to be a polypus. This swelling for the most part gradually subsides, but, in some instances, there remains a degree of chronic enlargement or state of hypertrophy, on which an interesting paper has lately appeared in the *Dublin Journal* by one of your talented Presidents, Dr. E. Kennedy, to which I may refer my hearers. I cannot but think that very many cases of hypertrophy, especially of the anterior lip of the os, owe their origin to this cause of protracted labour; a cause not by any means confined to these pregnant for the first time, but frequently met with in subsequent parturitions.

Doctor Dwyer concluded his observations by remarking how seldom

cases are met with in which active interference is requisite. He particularly dwelt upon the ruinous consequences which follow a meddling midwifery, and entreated his junior auditors to be cautious how they allow themselves, by their anxiety for the welfare of their patients, to be betrayed into rash and unsuccessful interference with the operations of nature.

The meeting then separated.

Delirium Tremens.—Our readers must all remember a very unseemly TRIAL of a septuagenarian surgeon of a public institution, for mistaking delirium tremens, or delirium traumaticum, for mania. Now we would ask the hypercritics in such cases, whether mania does or does not exist in fully-formed delirium tremens? No man who ever saw the disease would attempt to deny the existence of mental derangement in the case under consideration. Why, in the United States, where the disease is ten times more prevalent than in this country, it is termed “MANIA A POTU.” But the sticklers for a definite mark of diagnosis, say, “Oh we can tell delirium tremens from common mania by its *cause*, not by its SYMPTOMS.” Indeed! This is rather an unscientific procedure as well as a very unsafe one. We are called to a patient, and asked to examine him and give the name of his malady. But after a close investigation, we say—“Oh you must tell us the *cause* of his complaint, otherwise we cannot tell you its name.” This is a precious piece of diagnosis! Then let us observe that, in the first place, delirium tremens does *not* always acknowledge intemperance for its cause—and that the ordinary cases of acknowledged mania do very frequently result from habits of intoxication. Thus a man who lives well, but not intemperately, meets with a compound fracture of the leg, and consequently is debarred from animal food and wine. He gets delirium tremens or traumaticum, and presents the same phenomena as the man who has been drunk every day. An internal inflammation, as pneumonia, will sometimes occasion all the symptoms of delirium tremens, in good constitutions, but where food and wine are withdrawn, and the lancet and purgation employed. Thus, then, in a majority of cases, the *symptoms* are precisely those of a sudden burst of mania—often taking on the character even of monomania—and the *causes* are often those of common mania, and by no means universally intemperance in spirituous or vinous potations. We have seen several instances of temporary mania assuming the character of delirium tremens so exactly, that nothing but the history of the cases undeceived us. We may mention a recent case. A young medical gentleman was suddenly taken with symptoms of delirium tremens, and we were sent for to visit him. He had red ferrety eyes—cold clammy skin—dry tongue—incessant jactitation—quick small pulse—no sleep for some nights—violent gesticulations—rapid talking—aberration of intellect. He averred that the devil and a coati mundi were under the bed, and that conspiracies were formed against his life. There was tremor of the hands and agitation of the limbs. In short, a more complete picture of delirium tremens we had never seen; and this we mentioned to

one of his friends, while we inquired whether or not he had been lately indulging in drink. We were informed that he was a "Tee-totaller"—a young man of the most temperate habits—but that some moral causes, of a very exciting nature, had lately been in active operation, the precise nature of which we do not deem it necessary to mention. This information modified our treatment, or rather our prognosis. We did not exhibit opium or stimulants, but prescribed soothing or sedative remedies—few of which, however, were taken. In ten or fourteen days he was well. A remarkable occurrence took place during our attendance on this gentleman. A female acquaintance, much interested in his fate, visited him and remained several hours at his bed-side. The state of her friend's case made such an impression on her nervous system, that, soon after her return home, she presented a train of symptoms resembling those already described—merely from sympathy. We did not ourselves see the lady after she left our patient's bed-side; but were credibly assured of the above occurrence. Here then we see the effects of purely moral causes—namely, the symptoms of delirium tremens.

The advocates of a definite line between delirium tremens and a sudden outburst of mania have still a stronghold to retreat to, if beaten from the outworks. The treatment, they say, is different in the one case from that which is proper in the other. On this point we have no fear of joining issue with them. In the first place, what line of distinction can be drawn in the treatment, where, as is often the case, the mental derangement, acknowledged as such, results from habits of intemperance? None. But whatever be the cause of the mental aberration, the essential moral treatment is in all cases the same. The patient must be kept under surveillance, or even under restraint if necessary. In a delirium a potu, the tendency to self-destruction is often as strong as in mania from any other cause. The utility and necessity, therefore, of personal restraint is as necessary in the one case as in the other, whenever the aberration is considerable, and violence is manifested.

Thus, then, we find an identity of symptoms—often an identity of cause—and frequently a similarity of treatment in mania "*a potu*," and mania from any other cause. It is hardly necessary to observe that the adjunct "tremens" is obviously improper, since it is by no means a necessary accompaniment of mania "*a potu*." It is often present in other complaints, or even where no complaint is made by the patient, but where habits of intemperance are established.

If the above observations are correct, or founded on observation, (and we believe they are)—if mania a potu cannot always be distinguished by its symptoms or its causes from any other case of mania—and if the moral treatment, as far as restraint is concerned, be the same in both, then we say that Sir Anthony Carlisle has been hardly treated for mistaking a case of delirium tremens or traumaticum for one of mental derangement. The great ground of complaint against Sir A. has been the order to remove the patient from the ward of an hospital to an asylum. Now we confess that we do not see clearly

the justice of this complaint. We conceive that, during the existence of the delirium or mental aberration, no place can be worse, either for the patient himself, or the other inmates of the institution, than the ward of an hospital. The room, or even the dark cell of an asylum is infinitely preferable during the temporary insanity.

We allude only to the diagnosis of delirium tremens and temporary mental derangement, in this case. If the medical officer was guilty of negligence in his duty, the charge should have been placed on its proper basis, and no side wind ought to have been taken advantage of, to bring forward an accusation of ignorance.—*Medico-Chirurgical Review*, April, 1839.

Rheumatism terminated by Ossification of the Muscles, a Case followed by Observations, communicated by Drs. Testdin and Charles Danbresse, physicians, at Lille.—CASE. Wilmart (John Baptist) a bachelor, formerly a brushmaker, born of parents who died old, and one of which (the mother) was subject to rheumatic pains, has enjoyed good health to his eighteenth year; he always dwelled in one of the most unhealthy streets in the city, and continually was working in a damp cellar; he used the ordinary diet of workmen, and seemed always to be of temperate habits.

At the age of eighteen he got a fall, by which he hurt his right thigh; in consequence of this accident he suffered some pains, and became lame, which made him, after a lapse of two months, consult a surgeon who diagnosticated a dislocation, but considering the time which had already passed, thought it to be incurable, and did not prescribe any treatment. The pains gradually disappeared, but the lameness continued.

He worked at his trade for eight years longer; when he was seized with pains in all the extremities, accompanied by intense febrile movements. From thence the motions began to be embarrassed, especially those of the scapulo-humeral articulations. Nevertheless, he continued to work and to walk during seven years; motion then began to be more and more embarrassed; it was almost impossible for him to walk, the forearms alone continued to move freely. At last the arms and the thighs became completely immovable, as also the lower jaw, the motions of which began to be embarrassed, but a long time after those of both the thoracic and abdominal extremities.

In this state he entered, on the 3rd of February, 1834, the hospital of Saint Sauveur, where he stayed for two years and a-half without undergoing any treatment, except a bleeding at the time of his admission, which was performed with the view of influencing the intense febrile movements which continued for a long time. On the 15th of April, 1836, he was placed in the general hospital, in the ward of incurables. It was not till the end of December, 1837, that he attracted our attention, when he was found in the following condition:

Both the jaws were much approximated to each other, and

could not be separated; the motions of the lips were free; the nourishment, which consisted of broth, eggs, bread, and other soft aliments, was introduced through a breach caused by a loss of two teeth; the deglutition was not difficult, and the voice but little altered; the motions of flexion and extension of the neck were impossible; he only could move his head a little to the right, otherwise it was not inclined to either side; both sterno-cleido-mastoid muscles were stretched and prominent under the skin; both scapulo-humeral articulations were completely motionless; the pectoral muscles of each side were equally stretched and prominent, and also presented, in the greatest part of their extent, such a hardness, that their transformation into an osseous tissue was immediately diagnosed, which was also confirmed by percussion. It was easy to see that only a portion of those muscles were altered, and also one could see that this sensation of hardness of the muscles was not produced by the contraction of their fibres, because the ossified parts appeared in a form of prominent ribs, separated by the intervals, while the muscular tissue preserved its ordinary consistence; the inner edge of the left deltoid, as also the right biceps, were in the like condition; the right forearm could be approached to the trunk, but the extension could not take place but by half; the left forearm could perform the same motion, but less extensively; yet no hardness could be felt in the muscles of this arm; the motions of the frame were completely arrested, as also those of the coxo-femoral articulations; one could feel also round these articulations a hardness analogous to those of the pectoral muscles; the femoro-tibial articulations performed still some slight motions.

Otherwise the patient did not complain of anything, and all his functions appeared to be performed regularly, excepting nutrition, for he was in a state of great emaciation; the skin had preserved all its sensibility in the ossified regions.

He died at the age of thirty-nine, on the 23rd September, 1838, after having shown symptoms of pulmonary congestion and of enteritis.

Necroscopy.—Chest.—The lungs were filled with tubercles, and their tissue gorged with blood; the heart presented nothing particular, nor any of the large vessels.

Abdomen.—The digestive tube showed traces of a chronic enteritis; none of the other viscera of this cavity, nor the vessels, both arterial and venous, presented anything worth notice.

Examination of the Muscular System.—The muscles which, during life, were observed to be ossified were found really so, as also a great number of others which we shall enumerate and describe.

1. A portion of the right temporal, about an inch long, and two lines broad, consolidated on one end with the coronoid apophysis of the inferior maxillary bone, on the other, with the external aspect of the great wing of the sphenoid bone, a portion of the left pterigoidean which unites the pterigoid apophysis with the angle of the jaw; this accounts sufficiently for the want of motion of the jaws.

2. A portion of the great complexus, of the left side, two inches long. The sterno-cleido-mastoid of the same side was transformed in a fibrous tissue.

3. The inner third of the left deltoid continued without any line of demarcation, superiorly with the clavicle, and inferiorly with the humerus.

4. A considerable portion of the great pectoral, and almost the entire of the lesser of the left side.

5. The greatest part of the right great pectoral. The ossified portions have the form of three large bands separated by intervals, in which the muscular tissue is in its normal state, they run (*en dehors*) outwards, and unite with the coraco-brachialis, and the short portion of the biceps, which have undergone the same change in all their extent, except the long portion of the biceps, and the tendon of insertion to the radius, which are in a normal state.

6. The long portion of the right biceps at its upper attachment, to the extent of two inches; this portion is more bulky than usual, and has two separate insertions, one, as usual, under the glenoid cavity, the other to the axillary ridge of the scapula, to the extent of about six lines. The inferior extremity of the same muscle in its entire length, and to the extent of three inches, is attached to the olecranon, and is healthy.

7. The inferior extremity of the left biceps and of the triceps of the same side.

8. Portions of a considerable extent of the great right dorsalis; they represent ribs in a direction the reverse of the natural ones.

9. The muscles of the vertebral column in almost all their length, but more on the right than on the left. The sacral portions of these muscles is in a natural state.

10. The middle glutæus muscle is represented by long and broad ossific stalactiform needles.

11. The right adductors, as far as the middle of the thigh, are transformed into an irregular mass, uniting the femur with the pubis, and representing an abdominal clavicle, if one may use such an expression.

12. That portion of the anterior crural which is inserted into the anterior and inferior spine of the ilium.

13. All the inferior and internal parts of the right crural triiceps.

14. The lesser and middle left glutæi, and the posterior edge of the great.

15. The greatest part of the tensor vaginæ femoris of the left side.

16. An osseous mass which is united to the preceding; but which one does not know to what muscle to refer.

17. The internal and inferior portion of the biceps of the same side.

The appearance of this newly formed osseous tissue was not every where the same. The portion of the deltoid which consolidated with

the clavicle, for instance, differed in no respect in appearance from that bone. The same colour, the same hardness, the same direction of the fibres, the periosteum continuous with that of the clavicle, all was alike. There was a hole in it through which passed a vessel of considerable size. It was in this state that the greatest part of the abnormal tissue was found, that of the superior extremities was entirely so; but in the lower extremities some portions, especially those which were developed in the substance of the muscles, the greatest part of which remained unaffected, appeared to be of less dense and less compact texture; their colour was more light, and when plunging the blade of a scalpel, one felt that after having cut through the first dense layer, one could cut deeper with great facility. None of the muscles were entirely ossified, all preserved still a certain number of fleshy fibres, and especially the tendons have not undergone the slightest transformation; this was most remarkable with the biceps of the right side, of which the terminal tendon only, and a few fleshy fibres inferiorly, and the tendon of the long portion superiorly, remained healthy.

The fleshy fibres were inserted into the ossified parts in the same manner as they are to the other bones, by small aponeurotic fibres which were nearly united and confounded with the periosteum; because, as we have already said, there was almost every where a periosteum which seemed to originate from that of the bones with which the new ossifications were found in contact. On each side the head of the humerus, which was swelled, and presented a kind of *ramollissement*, was internally consolidated with the glenoid cavity; the same was the case with the head of the femur, otherwise not the slightest trace of the old dislocation existed.

Dr. Poggiale, Professor at the Military Hospital of Instruction at Lille, has analysed a portion of this osseous tissue, taken from the substance of the crural biceps.

“ This portion was white, less hard and less dense than an ordinary bone, and lighter than water. Examined in substance, it was found that it was composed of an external thin layer, which the knife could easily penetrate; this was perforated by many holes which gave passage to the nutritive vessels. In the species of canal which it formed, there was a spongy tissue composed of hexagonal cells.

“ A given weight of this substance, calcined in a crucible, after having been totally deprived of grease by means of boiling water, until it lost no more of its weight, has given the following results:

“ In 100 parts, there were forty-two of the inorganic matter, and fifty-eight of the organized, decomposable by heat. Another portion of the same substance, treated with diluted nitric acid, was deprived of its earthy salts, and left a residue presenting the form and the volume of the portion taken for maceration, and composed of

Cartilage, soluble in water,	54.30
Vessels	3.70

The analysis of the inorganic matter has given the following results :

“ On forty-two parts {	Phosphate of lime	32.09
	Phosphate of magnesia	3.25
	Carbonate of lime	8.66

“ It was impossible to detect soda and muriate of soda of which Berzelius speaks, and traces of alumina and silica, of oxide of iron and of manganese which Foucroy and Vauquelin have obtained. Some persons having expressed their opinion, that probably there was in this individual a transposition of a part of the earthy matters from the bones into the muscles ; I have analysed a portion of the osseous cavity of the cranium, and my analysis was found in perfect accordance with that of Berzelius. I will conclude by putting in apposition the analysis of the bones of man, by Berzelius, and that of which I have just stated the result.

	Berzelius.	Ossifications of the muscles.
Cartilage	32.17	53.30
Vessels	1.13	4.70
Phosphate of lime	59.04	32.09
Carbonate of lime	11.30	8.66
Phosphate of magnesia	1.16	1.25
Soda and muriate of soda	1.20	0.00.”

After the details into which we have entered, and the analysis of M. Poggiale, it is impossible to doubt the osseous nature of this tissue. Do we not really find in it the essential characters of the bone, the hardness and the organization, an organic parenchyma containing within its texture an inorganic substance, and even the same mode of nutrition, by the aid of a membrane which surrounds it on all sides, and sends vessels to its whole surface.

After this, it is of no consequence that the analysis has not shewn these two substances exactly in the same proportion as in the bones of an adult ; no consequence that some traces of substances which are to be found in the latter, and about which the chemists do not entirely agree, have been wanting in the former. Besides the analysis of M. Poggiale had for its object one of the ossifications found in the substance of the fleshy fibres, and the development of which appeared to be less perfect ; one thus may believe that he would have arrived to a different result, if he had chosen one of those, the physical properties of which differed in nothing from those of the ordinary bones.

The case which occupies us may be considered, we think, as unique in the annals of science ; not because there are no examples of the ossification of muscles ; thus many authors admit that the muscular fibres in the neighbourhood of fractures become ossified, beside the formation of callus

There exist, also, several partial ossifications of the heart ; such are to be found in Columbus, (*De Re Anat.*, lib. xv.), in Bonet, (*Sepulchretum*, lib. ii. sect., obs. 32), in Veslingius, (*Obs. Anat. et Epist. Medi.* xv.), in Boerhaave, (*Prædect.*, lib. v. p. 478). In

the Memoirs of the Academy of Sciences, of 1716, is a case of a jesuit in whose heart was found an ossification of four inches and a half long, and one inch broad. In Morgagni, (Epist. III. Art. 22). Finally Reneuldin, in a medical journal, of February, 1806, relates that he has found the left ventricle entirely ossified, which appears to us to be rather exaggerated. But the heart is an organ covered both internally and externally by a sero-fibrous tissue, and none of the cases just mentioned contains any thing that would lead us to believe or think, that it was not in this tissue that the abnormal ossification has been developed; besides there is no proof that these were not the same concretions as those found in the bladder, and which Meckel states to have been found in the muscles of the abdomen. Otherwise, we do not deny the possibility of partial ossifications of the heart; the modern authors, whose knowledge of pathological anatomy surpasses much that of the ancients, relate some examples of it; as Corvisart, Bertin, Burns, M. Andral, (Clinique Medicale), and M. Lithi, (Dictionaire de Medecine.) We find in Lieutaud, (Hist. Anat. Med., Obs. 789, t. ii, p. 99), a case of the ossification of the diaphragm: "Diaphragma," says he, "inter pulmonem dextrum, illi continuum, et hepar totam tangebatur cartilaginem vel osseum adeo ut flexum frangeretur cum sonitu." Haller (Dissert. Chirurg., ccvii.), says he has seen an intercostal muscle and a diaphragm ossified in the greatest part of their extent.

Collato, author of the Venetian Twins, presented after his death a similar case.

Seveille has found the right half of the diaphragm ossified in an old man.

Here are the same objections as in the cases of the ossification of the heart, that is to say, a want of proper details to enable us to judge if these are true ossifications, and above all, if they occupied the muscular or the sero-fibrous portions of these organs.

Finally, M. Cruveilhier, who in his *Precis D'Anatomie Pathologique*, has laid down such good rules for distinguishing the true ossifications from the simple calcareous concretions, relates a case seen by him in the clinique of Dupuytren, of a man labouring under elephantiasis, the muscles of whose leg exhibited a fatty degeneration, in the centre of which there were to be found long needles presenting all the characters of the osseous tissue.

M. Bricheteau says that he has found in February, 1816, the iliac muscle of an old woman transformed by half into osseous tissue, and by half into the adipose.

One thus perceives that the positive observations of the transformation of the muscular tissue into osseous tissue, different from those pending on the formation of callus, are limited to two, which in respect of the extent of the lesion cannot be compared with ours. We do not intend, in consequence of this case, to raise the question of the causes of the osseous degeneration in general. Evidently they are the same as those of all the degenerations of tissue; and although this question has already originated numerous and ingenious discussions, we may say of it as of many others, "Grammatici cer-

tant et adhuc sub judice lis est.”—(*Horace*.) We do not pretend to decide it; we will limit ourselves by noticing that our patient, after having been exposed to the most powerful causes of rheumatism, which undoubtedly is an inflammation, either specific or not, either of the sero-fibrous tissue of the articulations, or of the muscular tissue, has presented all the symptoms belonging to this affection; that under the continual influence of the same causes, the disease returned several times; that at last it has passed into the chronic state, and did not stop until the tissue, which was the seat of it, had lost its properties.

Now, by what successive transformations has the muscular tissue become an osseous? Bichat thought that the accidental ossifications were formed according to the ordinary laws of osteogony, that is to say, that the altered portion was first transforming in a cartilage, which, like that which succeeds the mucous condition of the foetus, was filling gradually with the earthy phosphates. We have seen nothing to authorize us to believe that it was the same in the case which occupies us. In fact, we have met nowhere with a portion of muscle presenting a cartilaginous aspect. Perhaps, if the cause which we have ascribed to this affection, namely, the muscular rheumatism, was acknowledged as the true one, it could help us to find out the series of the metamorphoses which the muscular tissue has undergone. In fact, one of the frequent effects of this disease is the fibrous degeneration; and every one knows that the fibrous tissue is easily charged with earthy phosphates. The cases of this kind are abundant in the records of science. Otherwise our supposition, in the present case, finds support in the fibrous transformation of only the left sterno-cleido-mastoid muscle. Thus we will not attribute to it more importance than it deserves.

The patient had entered the hospital at the time when the osseous transformation had already begun. Are there, in the present state of science, any therapeutic means capable to cure a similar affection? evidently not. All that could have been done, if the patient had come sooner, would have been to oppose its development by means usually employed against muscular rheumatism. But does it follow, that the result would always have been the same? No; because, if under the influence of agents, which we could not yet sufficiently appreciate, a muscle could evidently be changed into a bone, it is not irrational to suppose, that under the influence of other agents, as yet, it is true, unknown, this tissue might have its form, and its properties preserved.—*Gazette Medicale de Paris*.

K. K.

Extracts from the Statistical Reports of the Sickness, Mortality, and Invaliding among the Troops in the United Kingdom, the Mediterranean, and British America; prepared from the Records of the Army Medical Department and War-Office Returns.—We shall select from Captain Tulloch's Report, some of those portions which bear on the question of the effect of climate on pulmonary disease.

The Report itself is one of the most important and valuable collection of documents in medical statistics that has ever been published.

1. *Gibraltar*.—The Rock of Gibraltar, as it is generally termed, is a lofty promontory, forming, with that of Ceuta on the Barbary coast, the entrance to the Straits from the Mediterranean. It is generally esteemed the most southerly point in Europe, and lies in lat. $36^{\circ} 9' N.$; long. $5^{\circ} 17' W.$ The Rock is of an oblong form, about 4700 yards in length, 1600 in breadth, and rising abruptly to the height of 1439 feet. On its western side it is bounded by an extensive bay, from 30 to 40 miles in circumference; on the east by the wide expanse of the Mediterranean; on the south by the waters of the Straits; and the only connecting link with the mainland of Spain is a sandy isthmus on the north, about a mile in length, half a mile in breadth, and at its highest part not more than 10 feet above the level of the sea. On that side the rock is perfectly perpendicular, except for a small space on the north-west, where a narrow strip of flat ground covered with fortifications joins it to the isthmus. The eastern face is also an abrupt precipice to within a short distance from its base, where a steep bank of sand has been thrown up by the Mediterranean. On the southern side the rock sinks rapidly into a succession of flats or terraces surrounded by precipices, which ultimately terminate in the sea at Europa Point. The western side is also of an abrupt precipitous character, but towards the base breaks into a series of rugged slopes, which, before reaching the bay, terminate in a narrow strip of level ground whereon the principal streets of the town and the seaward fortifications are erected.

To enter into a minute description of the local peculiarities of this station, or to narrate the various precautions which have been adopted to preserve the health of the troops and inhabitants, would lead us far beyond the limits within which this Report must be circumscribed, and, as these topics have already been made the subject of publication by the late Dr. Hennen, in his Medical Topography of the Mediterranean, we shall only advert generally to such points connected with the health concerns of the garrison as are essential to be kept in view in the course of the subsequent investigation.

The Rock of Gibraltar is principally composed of grey limestone. The upper part is almost entirely devoid of soil, except in the gullies and a few spots where it has accumulated by the action of the rains. The level piece of ground on which the principal streets of the town are built is composed of red sand, and towards the south side there is some light fertile mould, but it is exceedingly scanty; every spot available for the purpose is laid out in garden grounds, and wherever an adequate supply of soil and moisture can be obtained the produce is most abundant. About 200 acres of that portion of the isthmus, termed the Neutral Ground, have also been brought under cultivation, and furnish an ample supply of vegetables for the garrison.

The whole surface of the Rock, particularly on the western side above the town, is much intersected by deep gullies, in which, during winter, water occasionally lodges; they are, however, always dry

in summer. To the southward are several extensive tanks, containing nearly two million gallons of water for the use of the troops and shipping; but in no part is there any ground which can be designated as marshy, and in general it is necessary to dig to the depth of 30 or 40 feet before water can be procured.

It is not our intention here to enter on the oft-agitated question, whether, notwithstanding the rocky, barren, and arid character of its surface, Gibraltar possesses in its soil, underground moister or vegetation, the germs of those noxious agencies to which the occasional visitations of pestilence in that garrison have been attributed: that question we shall leave to others who have had better opportunities of local information, or who may be more inclined to enter on such discussion; the object of this Report being principally to point out the extent of the sickness and mortality, without venturing to decide upon the presence or influence of causes which hitherto seem to have baffled the researches of the ablest authorities on the spot.

With regard to climate, Gibraltar, though dry and sultry in summer, and subject to fogs and mists throughout the year, may generally be characterized as healthy. The greatest height of the thermometer in the shade during a period of five years was 91° , and the minimum 50° . Its range in each month, and the average fall of rain during the same period, is shown in a table which want of space compels us to omit.

The temperature in summer is always from 3° to 4° lower during the night than during the day—often much more; and in the morning before the sun appears above the Rock, and also towards sunset, the air is pleasantly cool and refreshing, even in the hot season. In these respects Gibraltar enjoys a great superiority over Malta, where, though the extreme range of the thermometer is only 2° or 3° higher, there is, during the middle of summer, no perceptible reduction of temperature at night or in the morning, and the heat is much more oppressive.

Though snow seldom or never falls, and ice is rarely formed, the cold is keenly felt during the winter months, especially by those who have been long resident on the Rock.

The prevailing winds are from the westward and eastward. It seldom blows from the north or south, and when from these quarters continues but for a short time. The westerly winds are clear, dry, and refreshing; blowing directly on the town, they promote a free circulation of air, and are esteemed highly favourable to health. The easterly winds, or *Levanter*s, as they are termed, have quite a contrary character; their baneful effects are said materially to aggravate wounds and acute diseases, and often to prove fatal to convalescents; being surcharged with moisture during their transit across the Mediterranean, they are always damp, raw, and unpleasant, and when from the southward of east, are generally accompanied with thick fogs, which envelope the Rock, and are supposed to produce the same debilitating effects as the *sirocco* in the upper part of the Mediterranean.

From observations extending over a period of sixteen years, from 1810 to 1826, it has been found that the relative proportion of easterly and westerly winds throughout the year is very nearly alike, there having been during that period,—

Of easterly winds . . . 2,944 days.

Of westerly „ . . . 2,832 „

Easterly winds are most prevalent from July to November; this is the unhealthy period of the year among troops in Gibraltar, but as the same is the case in other countries remote from the influence of these winds, the insalubrity of that season cannot be altogether attributable to their agency.

The rains generally commence in the end of September or beginning of October, and set in with such violence as frequently to overflow the watercourses and commit great havoc in the streets of the town. The succeeding rains, which continue to fall at intervals till the end of May, are much lighter, and during the middle of summer there is seldom any, the sky is then without a cloud, vegetation becomes languid, and, unless irrigated by artificial means, generally perishes. The average quantity of rain throughout the year has been stated at $25\frac{1}{2}$ inches; one of the peculiarities of this climate, however, is the extreme irregularity in the supply; for instance, $73\frac{1}{2}$ inches fell in 1796, and in four days of that period no less than 25 inches, whereas in 1801 only 15 inches fell throughout the year, being little more than half the average in Britain; neither the excess nor deficiency on either of these occasions in any way affected the health of the troops. Heavy dews and thick fogs prevail during the autumnal months, and keep up a constant dampness in the atmosphere, which renders it very unpleasant to the feelings.

Diseases of the Lungs.—The ratio of admissions by this class of diseases is to that in the United Kingdom as 141 to 148, the principal difference being, that catarrhal affections are less frequent in Gibraltar, while inflammation of the lungs is much more so; the cases of the latter are, however, of a milder character, as only one in forty-five died of those admitted into hospital in Gibraltar, while one in eighteen died of those admitted for the same cause among the Dragoon Guards and Dragoons in the United Kingdom. The total mortality by diseases of the lungs would appear to be less at this station than at home; but that, we apprehend, arises from many of the consumptive patients being invalided, who if they die on their passage, or after their arrival in Britain, are not included in the returns of the station where their diseases originated. That this is sufficient to account for the difference may easily be supposed from the fact stated in the Medical Report of 1835, that during the thirteen years previous, the average number of deaths from consumption in Gibraltar was $12\frac{3}{10}$ annually, besides about five sent home labouring under the same disease, of whom few or none recovered.

2. *Malta.*—Lat. $35^{\circ} 54'$, N.; Long. $14^{\circ} 34'$, E.—This island is situated in the Mediterranean Sea, about 60 miles from Sicily, and

nearly 200 from the African coast. It is of an irregular oval shape about 11 or 12 miles from north to south, 20 from east to west, and from 60 to 70 in circumference. It is not mountainous, though well diversified by hill and dale: a rocky range, called the Ben Jemma hills, stretches across its entire breadth, but the highest elevation in any part does not exceed 1200 feet. The surface presents the appearance of an inclined plane, sloping gradually from the south-west, where the above elevation is attained, to the north-east, where it dips into the ocean. The whole substratum is composed of a soft calcareous sandstone. It is but scantily covered with soil, and of this the greater portion has been placed there by the hand of industry, or artificially created by breaking the surface of the soft rock into small fragments, which, crumbling by exposure to the action of the atmosphere, in the course of two or three years, become well adapted for the purpose of agriculture.

The island contains neither river nor lake, and from its geological structure, and the absorbent nature of the soil, has but little marshy or swampy ground; indeed, so far as can be ascertained, there is none to which that character is assignable, except two spots of very limited extent, at the head of the great harbour and St. Paul's Bay, where the ocean has receded, and left an accumulation of moist soil, from which noxious exhalations have been supposed to emanate. There is no exuberant vegetation, brushwood, or forest; the verdure is scanty, and the greater part of the surface presents nothing to the view but the arid rock.

Adjacent to Malta, from which it is only separated by a narrow strait of three or four miles, lies the island of Gozo, a dependency of this command; its greatest length is eleven, and breadth six miles; it consists of several hills, which, at the north-western extremity, rise to the height of 2000 feet, and declining towards the south, break into a diversity of gentle rising grounds and fertile valleys. The substratum is of the same calcareous rock as Malta, but better covered with soil and more capable of cultivation. There are a few smaller islands in the vicinity, which, not being occupied by troops, it is unnecessary to describe.

Malta, being much exposed to the influence of the hot winds which sweep over the deserts of Africa, and the sandy coast of Egypt and Syria, is subject to a higher temperature, particularly during the summer months, than is usual in the latitude of that island; indeed the heat at that period is little inferior to what is experienced in tropical regions. This high degree of temperature exists not only during the day, but, owing to the radiation of the heat absorbed by the rocky surface of the ground, and the thick stone walls of the buildings, continues, with very little abatement, even after the solar influence has ceased; and sometimes, for a period of several weeks together, the thermometer maintains, during the night, the same height as throughout the day, creating thereby a feeling of extreme lassitude and oppression among all classes of residents. Gozo being more under cultivation, and having a less extent of rocky surface to absorb

the heat, is generally cooler than Malta by at least two or three degrees: we possess no specific details of the temperature there, but at Malta the range of the thermometer on the average of five years, from 1830 to 1835, was for June 75° and January 59° .

We possess no measurement of the quantity of rain which falls in this island throughout the year. In September there are frequent showers, increasing in frequency during October and November; but from December to February the rain falls with nearly the same violence as in the tropics, and the atmosphere continues surcharged with moisture till March; it then begins to clear, and during the five following months scarcely a drop falls, and the sky is generally without a cloud.

The most prevalent winds in Malta are from the south-east, south, and north-west. That from the south-east, termed the sirocco, is the most common: and the disagreeable effect it produces on the human frame is frequently adverted to in the medical reports. It prevails principally during the autumnal months. There is no regular land and sea breeze, which, in some southern stations, serves materially to modify the temperature.

3. *Ionian Islands*.—The islands comprised in this military command are Corfu, Paxo, Santa Maura, Cephalonia, Ithaca, Zante, and Cerigo. With the exception of the last, which is considerably detached from the others, they extend nearly in a continuous chain from north-west to south-east, skirting the shores of Greece from the entrance of the Adriatic to the southern extremity of the Morea.

The physical aspect of these islands is very much alike. Mountainous, rugged, and for the most part comparatively barren, they at first sight present nothing to the view but masses of bare rock, broken into abrupt and picturesque forms, and intersected by deep clefts and ravines, which occasionally open into valleys of limited extent. In some parts these valleys admit of cultivation, and are very fertile, but in others, for want of free drainage, they are wet and marshy. The coasts are in many places deeply indented with shallow bays and lagoons, of which the banks are swampy; but, as will hereafter be shown, when we come to a more minute description of the localities of each island, the extent of marshy ground in any of them, except Corfu, is by no means very great, and in some of the smaller ones there is absolutely none which deserves that character.

Except in Corfu the soil does not in general appear to be retentive of moisture, and from the rocky precipitous nature of the high grounds the rain speedily finds its way through deep ravines and watercourses to the sea.

These islands are by no means remarkable for that exuberance of vegetation which, in warm latitudes, is supposed to be a source of insalubrity. On the contrary, they are, with the exception of Corfu, Paxo, and Zante, but scantily covered with trees, principally olives, which flourish on the poorest soil. As their produce forms a ready article of export without much outlay or trouble, the inhabitants do not in general apply themselves to the more laborious occupations of agriculture, so that the soil is by no means as much improved by cultiva-

tion as its capabilities will admit ; the fertile portions are principally devoted to the rearing of currants, and though much has been done of late years to reclaim the marshes and increase the quantity available for agricultural purposes, most of the grain used by the inhabitants still requires to be imported.

As these Islands, with the exception of Cerigo, do not differ materially in geographical position, there is but little difference in the nature of their climate. Like all mountainous regions, they are subject to sudden atmospherical vicissitudes ; the extremes of cold and heat, dryness and moisture, tempestuous and calm weather, often succeeding each other in the space of a few hours. The neighbouring mountains of Albania, covered with snow for six or seven months in the year, exert considerable influence in diminishing the temperature, during the winter and spring, in those islands which lie within their influence, while the reflection of the sun's rays from the bare and arid surface of the rocky mountains which intersect most of the Ionian group, tends to render the heat of summer equally oppressive as in more southern latitudes. From the operation of these causes, the extremes of heat and cold are said to be much more sensible to the feelings than is indicated by the mere range of the thermometer. A table is given, showing the average temperature for ten years. It is $65\frac{1}{2}^{\circ}$.

The degree of heat at particular seasons is greatly influenced by the direction of the wind. When from the N. or N. E. it is generally cool and pleasant, but from the S. or its collateral points, it is hot and humid, often accompanied by mists and rain, and not unfrequently by the sirocco, during the continuance of which not only is vegetable life parched and languid, but the animal powers succumb to its influence. Patients previously convalescent are apt to relapse, ulcers and wounds become more difficult of cure, and every type of disease, but particularly remittent fever, assumes a more aggravated form. It would be impossible to specify with any degree of accuracy the winds which are most prevalent during particular seasons of the year ; for, owing to the peculiar shape and position of these islands, and the currents of air being so much intercepted by high mountain ranges, they are exceedingly variable and irregular, and often blow strongly from contrary directions within the distance of a few miles.

Diseases of the Lungs.—Notwithstanding the variable character of the climate, the rapid alternations of temperature, and the tempestuous weather which frequently prevails in this command, diseases of the lungs are both less prevalent and less fatal than at Malta or Gibraltar ; the admissions into hospital by that class of disease in these three commands being respectively as 90, 120, and 141, and the deaths as 4·8, 6·0, and 5·3 per thousand of the strength annually. The principal exemption in the Ionian Islands is from catarrhal affections, which are not half so prevalent, or half so productive of mortality as in the other Mediterranean stations, or in the United Kingdom. Most of the deaths arise from consumption ; but neither is the proportion attacked so high nor the fatal cases so numerous as in Malta, where there exists a comparatively equable temperature, and that mild condition of the

atmosphere which is supposed favourable to persons predisposed to that disease. In Malta, on the average of 20 years, about 6 per thousand of the troops have been attacked annually by consumption, and in Gibraltar and the United Kingdom, nearly the same ratio, while in the Ionian Islands only 5 per thousand have been attacked, and the deaths have been fewer in the same proportion. This slight exception may, however, in some measure, be attributable to a smaller proportion of force being at that period of life when persons are supposed most liable to this disease; for instance, on reference to the abstract of ages, No. XVI. of Appendix, it will be seen, that in Malta and Gibraltar, one-third of the troops are under twenty-five, whereas, in the Ionian Islands, about a fifth only are under that age; a circumstance which may exert considerable influence on the results, particularly as regards consumption.

It is stated in many of the Medical Reports that, owing to the sudden and frequent atmospherical vicissitudes in this climate, inflammation of the lungs is extremely frequent and fatal. The result of these investigations, however, establishes, that it is not more so than in other stations which are less liable to such vicissitudes; in Malta, for instance, out of an aggregate strength of 40,826, there were 1370 attacked, and 44 died by this disease in the course of twenty years; whereas in the Ionian Islands, out of an aggregate strength of 70,293, there were only 2186 attacks, and 81 deaths during the same period, being about an equal proportion. This disease is more prevalent in Corfu, and more generally fatal in Cephalonia, than in any other of the Ionian Islands.

SECTION VII.—*Deductions from the preceding Report.*—As the preceding results tend to render questionable many of the theories regarding the influence of certain climates and localities in inducing some diseases, and modifying the operation of others, it may be necessary here to take a brief review of the information which has been obtained on that subject in the course of this investigation.

The mild climate of the Mediterranean, for instance, has generally been considered favourable to the cure or prevention of consumption and other pulmonary affections. To ascertain whether this supposition is well founded, or the reverse, is manifestly an object of much importance to medical science, and can only be determined by investigations extending over a long series of years, and including large masses of individuals. The experience of civil practitioners, however carefully recorded, is on too limited a scale to warrant general conclusions on a subject of such magnitude; yet, hitherto, no other source of information has been available for that purpose, and it is not surprising, therefore, if their conclusions, when submitted to the test of numerical calculation, are, in many instances, found to be erroneous.

In no way can the relative influence of climate in inducing any particular disease in different countries be more accurately estimated than by a comparison of the proportion attacked annually out of a given number of individuals resident in each. If we apply this test to

the Mediterranean stations, by investigating the relative prevalence of consumption among the troops there and in the United Kingdom we obtain the following results :

	Aggregate Strength of 7 Years, from 1830 to 1836 inclusive.	Total attacked by Consumption in these 7 Years.	Ratio per 1000 of Mean Strength attacked annually.
United Kingdom .	43,163	286	6.6
Gibraltar . . .	22,868	187	8.2
Malta	15,031	101	6.7
Ionian Islands . .	24,401	129	5.3

We have already alluded to this subject in a more general way, in the course of our observations on diseases of the lungs in each of the Mediterranean commands, but we can now speak with more certainty from results extending in each instance over the same seven years, and embracing a large number of individuals of the same profession, the same age, the same habits, and having, except at Gibraltar, the same diet. This affords so accurate a standard of comparison as to place beyond a doubt the interesting fact, that, except in the Ionian Islands, the liability of troops to consumption in the Mediterranean stations is even greater than in the United Kingdom. We have not compared the deaths by consumption for a similar period, because conclusions could not have been drawn in regard to the relative mortality with the same accuracy, so many labouring under that disease having died on their passage home or after their arrival in this country ; but from all the information we have been able to obtain there can be no doubt that if due allowance is made for these casualties, the proportion of deaths also, among those attacked by consumption, will be found fully as high in the Mediterranean as in the United Kingdom.

We might have carried this comparison further, and shewn how little influence temperature has on this disease by the fact, that it is still more prevalent and fatal in the Mediterranean than in North America, where the soldier has frequently in the course of his duty to be exposed to the night air, when the thermometer is several degrees below zero ; but we defer entering on any more extensive comparison of this kind till we have an opportunity of adducing evidence on that subject in a more detailed form.

These facts offer a striking contradiction to the popular idea regarding the influence of sudden atmospherical vicissitudes, and rapid alternations of temperature, in inducing this disease ; but it is even more remarkable that similar results should be obtained in regard to the relative prevalence and mortality by pleurisy and inflammation of the lungs, which are supposed to be still more influenced by these agencies.

A table is given, which we omit, shewing that inflammatory affections of the lungs are nearly twice as prevalent in the Mediterranean as among the same number of troops in the United Kingdom, and that in the mild climate of Malta they are also twice as fatal.

These facts, combined with a careful examination of the Abstracts in the Appendix, lead to the inference that residence in the Mediterranean, though so often recommended to patients labouring under pulmonary affections, is by no means likely to be attended with beneficial results : in some cases, no doubt, change of air, change of scene, and the sea voyage, may have benefited a patient, and led to a partial recovery, but the same would in all probability have taken place wherever he had been sent, it being by no means likely that any beneficial influence can be exerted by the climate itself, when a body of selected soldiers, subject to no severe duty and exposed to no hardship, lose annually a larger proportion of their number by consumption than in the United Kingdom. This inference, however adverse to generally received opinions, is strikingly corroborated by the prevalence of consumption and other pulmonary affections among the civil inhabitants of Malta, as shewn in Appendix No. III. of this Report.

The average number of pulmonary affections during the last seven years is certainly not too favourable a standard of comparison for the climate of the United Kingdom, as they have been more frequent than usual, owing to the influenza having twice prevailed to a great extent among the troops. The results for the same period may be supposed, however, to afford a fairer average for the Mediterranean, where that epidemic was not so prevalent.

SECTION VII.—*Deductions from the preceding Report.*—Having, in the course of this Report, frequently adverted to the uniform degree of prevalence which, notwithstanding the dissimilarity of climate, has been found to exist in the proportion of pulmonary affections in Nova Scotia and Canada, compared with Malta and Gibraltar, it seems unnecessary here to recapitulate the evidence on that subject ; but it may be proper to inquire whether there exists, in the moral or physical condition of the troops in the Mediterranean and American stations, any difference likely to have influenced the results on which that comparison has been founded.

In the last section of the West India Report we showed that these diseases, even under the high temperature of the tropics, prevailed to a greater extent than in the United Kingdom. But it may be argued that several circumstances, independent of climate, were there in operation to induce that peculiarity ; for instance, the innutritive qualities of the diet, the limited and defective state of the barrack accommodation, and the general prevalence of intemperance, were all causes tending to affect the health of the troops in no inconsiderable degree. We are, therefore, led to inquire whether any deteriorating circumstances of a similar nature exist in the Mediterranean from which the troops in North America are exempt, and by which the tendency to these diseases may have been so far aggra-

vated as to counterbalance the advantages otherwise resulting from its mild and equable climate.

So far, however, from this being the case, every circumstance has been more favourable to the troops in the Mediterranean. The barrack and hospital accommodation, in Malta and Gibraltar at least, is not only of a more substantial nature than in Canada and Nova Scotia, but nearly double the space is allotted to each soldier; the diet, with the exception of a greater issue of salt meat in Gibraltar during the winter months, is nearly the same, and the meals are regulated on similar principles. Intemperance, to which so much has been attributed as an exciting cause of these diseases, cannot be said to prevail to a greater extent in the Mediterranean than America, where the constant use of ardent spirits is likely to prove still more prejudicial than the low wines which form the principal medium of intoxication in the Mediterranean.

In all these respects, then, the troops in the Mediterranean have decidedly the advantage. We have yet to advert to another circumstance no less favourable to them: consumption, the most fatal of this class of diseases, is supposed to affect persons at an early period of life more than those of mature age. Now, owing to the frequency of desertion in North America, so many recruits have to be sent out from this country that nearly one-half of the force there is under 25 years of age, while in the Mediterranean, where no such necessity exists for large drafts from the depôts, the proportion under that period of life is only from a third to a fourth of the whole; consequently the composition of the force in the Mediterranean renders it much less subject to the influence of consumption, if not also of the other pulmonary diseases which frequently precede it.

When we find, notwithstanding all these circumstances apparently so favourable to the greater development of these diseases in Canada and Nova Scotia, that the troops there do not suffer from them to a greater extent than in the Mediterranean, it would manifestly be incorrect to attribute their prevalence in North America to the reduced temperature and sudden atmospherical vicissitudes incident to that quarter of the globe, seeing that the sufferings of the troops from these diseases are equally great in other climates where no such causes are in operation to induce them.

We have been thus particular on this head, because, in the Reports from the different medical officers in North America, we find a great portion of the sickness and mortality attributed to the severe and changeable nature of the climate inducing pulmonary affections of various kinds. It is true that many of the deaths arise from these diseases, but in this respect the troops there are by no means singular in their sufferings, for, throughout the wide extent of the British Colonies, few stations can be found where soldiers are not affected by them in an equal degree, though, perhaps, owing to the greater extent of mortality by other diseases, these are less a subject of observation or remark. In addition to the instances already adduced on that head it will be shown, in a future Report, that even in the mild climate of the Mauritius, more soldiers are attacked by con-

sumption, and nearly as many by inflammation of the lungs, as in the most inclement regions of North America, though we do not find that the prevalence or fatal character of these diseases attracts so much attention.

Biographical Memoir of DR. JAMES JOHNSON, Senior Editor of the Medico-Chirurgical Review.—“Nec medici, nec imperatores, nec oratores, quamvis artis præcepta perceperint, quidquam magnæ laudis dignum sine usu, et exercitatione consequi possunt.”—CICERO. A justly celebrated physiologist and physician has well observed, that “that man is a scientific physician, who is well acquainted with, and has appropriated to his own use the results of all the inquiries which has been made at different times by eminent observers upon the symptoms, course, and causes of diseases, and with the precepts of treatment which they have recommended and employed.” And that, “to become a skilful practitioner, he must understand how to bring this knowledge into operation, and be ready to apply all its rules and deductions to each particular case.” This is a talent only to be acquired by the most patient observation, the most diligent study, and the most extensive practice; and if any one member of the medical profession is to be regarded as having most zealously laboured to attain this summit of medical knowledge, it is the subject of the present memoir, who has now for many years given to us the fullest evidence of his erudition and practical knowledge by the judicious and able manner in which he has conducted the “Medico-Chirurgical Review, and Journal of Practical Medicine,” a work which must be admitted to hold the very first rank and importance in medical periodical literature.

The opinion thus directly given of the merits and qualifications of Dr. James Johnson is not simply a result derived from the perusal of the pages of his review; but has been formed from an acquaintance with his practice, and an association with him in professional matters at various times, and during several years. It is not to be regarded as the language of panegyric—it is truly the payment of a debt of gratitude to one who has so ably led the minds of the medical public to a consideration of what is due to themselves as practitioners, and to those individuals whose happiness and lives have been committed to their care. The importance of an able and just periodical literature of medical science must be admitted by all—it is too generally entrusted to inexperienced hands, and crude theory has but too often usurped the place of practical observation. The press of the present day teems with the productions of authors on medical subjects, and literary discrimination is more necessary than ever, to point out not only to the student, but also to the practitioner, the works of real value and necessary to be perused. This is a task of no little labour or difficulty—great information is necessary on the part of the guide, to accomplish this object in a satisfactory manner. Pope observed, that “the greater part of critics form a general character from the observation of particular errors, taken in their own oblique or imperfect views; which is as unjust, as to make

a judgment of the beauty of a man's body from the shadow it happens to cast in such or such a position." As a critic, Dr Johnson is not open to this censure—he stands indubitably one of the least prejudiced, and the manly way in which he has at all times stated his objections to the opinions expressed by others, shows that he does not belong to the class so forcibly described by the poet just quoted.

Dr. JAMES JOHNSON was born in the year 1778, in the parish of Ballinderry, county of Derry, Ireland, on the banks of Lough Neagh. His parents were Protestants; his father, a respectable yeoman, cultivating a small farm of thirty or forty acres. James Johnson was the youngest son of a large family, none of whom, I believe, except himself, are now living. At the age of six years he was put to a grammar school, kept by a Catholic, the brother of the parish priest. Here he made rapid progress, and, as I learn, was generally at the head of his class. When not so, he was very unhappy, and would sit up till midnight in study. At the early age of fifteen he passed an examination in Dublin, in the classics, and was apprenticed to a surgeon-apothecary (Mr. Young) in Port-glenone, in the county of Antrim. He remained there only two years, when he was transferred to Mr. Bankhead of Belfast, where he continued two years more, and then came to London, without either money or friends. He became assistant to an apothecary in the metropolis, and, by hard study and irregular attendance on lectures in anatomy and surgery, he passed a creditable examination at Surgeon's Hall in 1798, and was appointed surgeon's mate in the navy, in the month of May of the same year. In the Mercury frigate, he sailed to Newfoundland and Nova Scotia, always studying very hard, and, when the ship was in harbour, taking every opportunity of visiting the naval hospitals, abroad and at home. Captain Rogers, of the Mercury, who had a great antipathy to the Irish, made an exception in the case of his youthful surgeon's mate, and winked at his absence from the ship for some months in the winter of 1799, when he studied night and day in London; and in January, 1800, he passed a triumphant examination, for the second time, at Surgeon's Hall. Through the interest of his patron, Captain Rogers, he was appointed full surgeon in the navy, and appointed to the Cynthia, sloop-of-war, on the 27th of February, 1800, as appears by Steel's Navy List. He was then in the twenty-second year of his age. In this ship he accompanied the famous expedition to Egypt, was at the siege of Belleisle, (not the American Belleisle,) and all the various descents which the troops made on the coasts of France, Spain, &c. till they reached Egypt. In the Mediterranean he was taken ill, and was sent back to Gibraltar Hospital, where he did duty for some time under Mr. Vaughan, surgeon of the Naval Hospital there. From thence he returned to London in the winter of 1800, and studied in Great Windmill-street, under Mr. Wilson and Mr. Thomas. In the winter of that year, he distinguished himself as a dissector, and very generally prepared the subjects for Mr. Wilson's and Mr. Thomas's lectures and demonstrations, as the latter gentleman still

states with pleasure. It was in this winter that the present Master of the Rolls (then Mr. Bickersteth) and Mr. Johnson formed a society of six individuals, who gave demonstrations daily, in their turn, to a large class of medical students, in the anatomical theatre of Windmill-street.

In May, 1801, Mr. Johnson's slender finances were entire exhausted, having expended his last farthing on lectures and studies. In the spring of that year, being anxious to attend a course of midwifery lectures, but not having the means of paying the fee, he stated his circumstances to the late Dr. John Clarke, then a distinguished lecturer in Burlington-street, who instantly gave him a free ticket of admission, and invited him to his table. Mr. Johnson never forgot this act of generosity, and has frequently related the anecdote.

In June, 1801, Mr. Johnson applied to the Navy Medical Board for a ship, and tendered a certificate from Mr. Wilson, couched in the following remarkable terse language, to Dr. Harness:—"The bearer of this, Mr. James Johnson, has actually *lived* in the dissecting-room of Great Windmill-street during the last six months. Examine him, and see whether he has studied in vain." Dr. Harness instantly appointed him to the "Driver" sloop-of-war, in which ship he served in the North Sea, visiting the Orkney and Shetland Islands, and going with a convoy to the vicinity of Greenland and Hudson's Bay.

At the peace of 1802, he was again out of employ, and passed a few months, and spent the remainder of his scanty finances in study in the metropolis. It then required great interest to get employment on the peace-establishment, and Mr. Johnson had none. He applied to the Sick and Hurt Board, and the late Sir Gilbert Blane having entered into conversation with Mr. Johnson, gave him a help, and he was immediately appointed to a fine frigate, (the "Caroline,") fitting for the East Indies. In May, 1803, he sailed for the East; and during the next three years, in India and China, he laid the foundation for his first medical work, *The Influence of Tropical Climates on European Constitutions*.

In 1806 he returned from the East Indies, and having been successful in prize-money, he now entered as a student at Guy's and St. Thomas's, and became acquainted with Sir Astley Cooper, Dr. Curry, and other distinguished characters of the period. In the Autumn of the same year he married Miss Charlotte Wolfenden, of Lambeg, in the county of Antrim; and after a year or two of attendance on prisoners of war at Plymouth and Portsmouth, he was appointed to the "Valiant," of seventy-four guns, in which ship he remained nearly five years, and saw a great deal of active service. This was one of the two line-of-battle ships that forced their way into Basque Roads, between strong batteries, and burned the French fleet there. Afterwards, in 1809, he was present at the Walcheren expedition, and narrowly watched the havoc of disease on those pestiferous islands.

In 1812, he published the first edition of his work on *Tropical*

Climates, chiefly at his own risk and expense, and immediately on its appearance, he was appointed flag-surgeon, with the late Sir William Young, then in command of the North Sea fleet. Here he did the duty of physician to the fleet, and acquired the friendship and patronage of Admiral Young, which continued till the death of the latter in 1820.

At the peace of 1814, the late king, then Duke of Clarence, hoisted his flag in the "Impregnable," when Sir William Young retired, and Mr. Johnson was so strongly recommended to the Duke, that he was retained, and served with His Royal Highness while conveying the Emperor of Russia, King of Prussia, &c. &c., to this country. The Duke had an attack of his hay-asthma at Boulogne, while waiting for the crowned heads, and Mr. Johnson attended His Royal Highness, and the attack was very soon overcome. The Duke was so much pleased with Mr. Johnson, that he exerted all his influence to obtain for him the rank of physician to the fleet, but was baffled by Lord Melville, then at the head of the Admiralty. The Duke appointed him surgeon-in-ordinary, and always afterwards treated him with great kindness.

At the conclusion of the war in 1814, Mr. Johnson settled at Portsmouth as a general practitioner, and in less than two years got into extensive practice. But his health was not good; and perhaps his ambition was strong, for in July, 1818, he removed to London. This was a bold step. With the exception of Sir William Young, he had no friends whatever in the metropolis: he had a family of five children; and, as he has told me, was not worth five hundred pounds in the world. Since that period—now twenty years or more—his life, in a professional point of view, has become well known. He had taken out a Scotch degree in 1813; and he became a licentiate of the College of Physicians in 1820.

Dr. Johnson's first publication was not a medical one. It was entitled *The Oriental Voyager*, published in 1808, and presented an amusing account of his voyages and observations in the East. His next was the work *On Tropical Climates*, published in 1812, and which has gone through five editions. The most experienced practitioners in the diseases of hot climates have uniformly expressed the high opinion they entertain of this work. The application of physiological knowledge to the treatment of disease is beautifully illustrated by the author. The fifth edition contains the substance of his treatise on Indigestion.

While serving with Sir William Young in the North Sea, he published some papers in the *New Medical and Physical Journal*; and when he settled at Portsmouth, he appeared as one of the editors of that work. The Journal, however, had but little success; and in July, 1818, when Dr. J. came to the metropolis, he took the bold and dangerous step of starting a *Quarterly Review*, entirely at his own risk and expense, and conducted by himself alone! To his astonishment, the first edition of the first number was exhausted in the first week, and the work rapidly rose to a circulation of 1250, 1500, 2000, and ultimately 2500 copies. This journal is the only

medical one that has ever been reprinted in a foreign country. It has been republished regularly in New York for many years past, and circulates widely in the United States. His private practice increased with the Journal, and the mental and corporeal labour required for his public and professional avocations was enormous, and such as would have destroyed the health of any one who had not an excellent original constitution, and great facility of composition, verifying what the best prose writer perhaps of the present day has observed, that "he who thinks least about it when engaged in composition will be most likely to attain it, for no man ever attained it by labouring for it."* I know, on the best authority, that for years and years Dr. Johnson never even read over the copy of his reviews before it went to press ; and so few were the corrections afterwards made, that the cost of these seldom exceeded a few shillings on each quarterly number of his Journal. Dr. J. has often declared, that the only secret of his being able to go through such extensive literary labour was his punctuality. Whatever might be his professional avocations of the day, he seldom or never went to bed till the number of pages necessary for the Journal were completed. When private practice was not pressing, he took care to have the Journal far in advance, so that it was always ready long before quarter day. Excepting when on his tours of health, he never relaxed an hour, or hardly a minute, during the day, from work of some kind or other. Indeed, his excursions at home and abroad were not even exceptions to this law ; for incessant activity of mind and body has been the characteristic of his life.

Such uninterrupted labour, however, could not be carried on for years with entire impunity. In 1823, after suffering severely from a surgical operation, he recruited his health by a three months' tour in Switzerland, &c. ; but in 1826 his dyspeptic complaints assumed an aggravated form, and threatened his life. At this period he was obliged to relinquish, for a time, his professional avocations, and in that retirement wrote his *Essay on Indigestion*, drawn from personal as well as general observations on that afflicting and Proteian malady, the scourge of those who overwork the brain as well as the body. This work, which has gone through nine editions, and has been translated and reprinted in different countries, brought his private practice to the highest point compatible with his health, which of late years has been remarkably good. The first three editions of this work were demanded in the short space of nine months. Few books upon a subject which has been so generally treated of, and upon diseases with which so many are afflicted, have been so popular, yet so entirely devoid of quackery. Beaumont and Fletcher have truly said,

"What an excellent thing did God bestow on man
When he did give him a good stomach."

Dr. Johnson felt the want of this blessing, and applied his mind to

* The Doctor, vol. ii. p. 201.

the relief of his sufferings—this has contributed to the happiness of others, for the treatment he proposes is at once energetic, and founded upon a due observation of the phenomena of disease, and the operations of the animal economy. The last edition of the work has a description of the Baths of Pfeffers in the country of the Grisons.

In 1831, he published his first edition of *Change of Air, or the Pursuit of Health*, which has gone through four editions, and is considered by himself as the best of his literary labours, though apparently written *currente calamo*. This volume was the result of an autumnal excursion through France, Switzerland, and Italy, in the year 1829, and contains many judicious observations on the moral, physical, and medicinal influence of travelling, exercise, change of scene, foreign skies, and voluntary expatriation. The work opens with reflections on education and avocation, and most truly depicts the “wear and tear” of human life. This applies equally to the body and the mind, the connexion between which and their sympathies, in all the modifications of pleasure and of pain, and the relation which obtains between the condition of the intellectual faculties and those functions which constitute the animal economy, are well known to be subjects of great intricacy and difficulty. They belong properly, perhaps, more to the natural philosopher than to the moralist, but the researches of either have hitherto not been productive of any positive information upon the subject. The alliance, however, must be admitted—the connexion is apparent, though the cause be obscure. All the great writers of antiquity have remarked upon the effects of excess on the operations of the intellect. Horace devotes a satire to the advantages of temperance, and he remarks, with that energy which so particularly distinguishes all his writings, that the body overcharged with the excess of yesterday, weighs down the mind together with itself, and fixes to the earth that particle of the divine spirit.

“————— Vides ut pallidus omnis
Coenâ desurgat dubiâ ; quin corpus onustum
Hesternis vitiis, animum quoque prægravat unâ,
Atque affigit humo divinæ particulam auræ.”—HOR. Sat. ii. l. 2.

No one has, in my opinion, more tersely or more truly expressed the value of health than Sir William Temple:—

“Health (he says) is the soul that animates all enjoyments of life, which fade and are tasteless, if not dead, without it: a man starves at the best and the greatest tables, makes faces at the noblest and most delicate wines, is old and impotent in seraglios of the most sparkling beauties, poor and wretched in the midst of the greatest treasures and fortunes: with common diseases strength grows decrepit, youth loses all vigour, and beauty all charms; music grows harsh, and conversation disagreeable; palaces are prisons, or of equal confinement; riches are useless, honour and attendance are cumbersome, and crowns themselves are a burden; but, if diseases are painful and violent, they equal all conditions of life, make no difference between a prince and a beggar; and a fit of the stone or the colic puts a king

to the rack, and makes him as miserable as he can do the meanest, the worst, and most criminal of his subjects."

Dr. Johnson not only points out the cause of the "Wear and Tear of Modern Life," but he distinctly states the means of counteracting these effects; and all who delight in the union of literary taste with scientific inquiry will peruse Dr. J.'s work with great satisfaction.

In 1833, he published an amusing tour to the Hebrides, entitled *The Recess, or Autumnal Relaxation in the Highlands and Lowlands*.

In 1836, he published *The Economy of Health, or Stream of Human Life*, which has gone through three editions, and is a very popular production. Butler says,

"There is a kind of physiognomy in the titles of books, no less than in the faces of men, by which a skilful observer will as well know what to expect from the one as the other."

Here is matter for the metaphysician and the moralist, as well as the physician. The stream of life from the cradle to the grave!

"————— so gliding on
It glimmers like a meteor, and is gone!" ROGERS.

And 'tis what Shakspeare said of love—

"The uncertain glory of an April day,
Which now shows all the beauty of the sun,
And by and by a cloud takes all away."

For, as Felltham has written,

"The life of man is the incessant walk of time, wherein every moment is a step towards death. Even our growing to perfection is a progress to decay. Every thought we have is a sand running out of the glass of life. Every letter which I now write is something cut off from the measure of my existence here."

Dr. Johnson divides it into ten septenniads, and treats of all its various conditions—the evolution and progress of functions—the changes peculiar to the different periods—the diseases of most common occurrence, under varieties and vicissitudes of climate and seasons—and the gradual decay of the mortal fabric. All these important matters are the subjects of Dr. J.'s philosophical observation and speculation, and the manner in which they are treated illustrates the advantages arising from a comprehensive knowledge of the whole science.

During all this time his literary labours in the *Medico-Chirurgical Review* have been indefatigable, though assisted by his son, and by various writers now employed in that work. For the first ten or twelve years, almost every article in that Journal was written by himself, for which I have his own testimony, affording a sufficient proof of the assiduity of his studies, and the remarkable facility of his compositions. He states himself to have been almost entirely *self-taught*, both literary and professional; and from the expiration of his short apprenticeship, he supported himself without ever receiving a shilling from his relations.

Through a long and chequered life, he seems to have offered an exception to the dictum of the poet:—

“Haud facile emergunt, quorum virtutibus obstat
Res Augusta Domi,”

for he overcame all obstacles apparently without difficulty, and rose to comparative affluence and reputation, by easy but regular exertion of his intellect. Considering the difficulty and danger of the office of reviewer, I believe that he has made exceedingly few personal enemies—and most of these few have become his friends in the sequel.

In private practice he is one of the most popular physicians of this metropolis. His manners are mild and kind to his patients, and he has the art of inspiring great confidence in those whom he attends—an art, which like that of poetry,

“Nascitur non fit.”

In his domestic affairs he has been fortunate and happy. His eldest son, Mr. H. J. Johnson, is united with his father as editor of the review, and is very much liked as a teacher of anatomy in the Kinnerton-street School, and bids fair to arrive at lucrative and honourable distinction in his profession. His second son Mr. W. Johnson, took honours at Cambridge, obtained a fellowship, and is called to the bar. His third son is a solicitor: and his youngest son is studying under his eldest brother for the profession, at St. George's Hospital. His only daughter is married to a gentleman in the legal profession. Dr. Johnson may, therefore, now be considered as practising for the love of his profession, rather than for the support of a family, who are almost all provided for. He has always been a sedulous attendant on the various medical societies, and an active promoter of medical discussions in these institutions, where, indeed, he seems to be a general favourite.—Though remarkably cheerful in society, I have reason to believe that the subject of this memoir is pensive and rather melancholic in private. This is probably the case with a majority of those whose literary productions and convivial conversations would lead us to think them the gayest of the gay. In religion, general politics, and medical politics, Dr. J. is known to be liberal, though free from scepticism, or ultra-radicalism. In the relations of private and domestic life, nothing is known but what is most honourable to his character.—*Pettigrew's Medical Portrait Gallery.*

Postscript to Mr. Smith's Paper on the original or congenital Luxations of the Upper Extremity of the Humerus, p. 249.—CASE V. *Congenital Subcoracoid Luxation.*—Upon the 16th of last month, a boy, aged nine years, was sent to me by Dr. Croker. The aunt of the child stated that his right arm was paralysed, but as soon as I looked at the limb I recognised, *even through his clothes*, a congenital luxation of the head of the humerus; the flattened appearance of the shoulder, and the peculiar and characteristic manner in which the arm hung by his side at once led me to form this opinion, which subsequent examination proved to be correct; his aunt stated that he had nearly attained the age of one year before the condition of his limb attracted attention, which was then excited, not by the defor-

mity of the shoulder, but by the atrophied state of the muscles of the arm, when compared with those of the opposite side; the child had not met with any accident, nor did he ever complain of pain or any other symptom indicative of disease of the articulation. Surgical assistance was at once procured, and an opinion was given that the case was one of simple paralysis: blistering and other severe measures were had recourse to for upwards of two years, but without being productive of any beneficial effect. Various mechanical contrivances were subsequently employed, with a view to retain the head of the humerus in its proper position, but they all failed in accomplishing this object. I particularly inquired whether the deformity of the shoulder had increased since it was first noticed, and was told by the child's aunt, that several years elapsed before the full development of the appearance which the joint now presented. These appearances it is quite unnecessary to enumerate, as it would be merely a repetition of what has been already described in the cases of Steele and Howe; there is the same prominence of the acromion and wasting of the muscles; the same mobility of the scapula, and the glenoid cavity, incompletely developed, can be felt with equal facility and distinctness; in this case, also, the atrophy has not extended to the trapezius muscle, on the contrary, it is as well developed as that of the opposite side.

ROBERT W. SMITH.

On the Effects which result from the Introduction of Pins into the Digestive Organs. By M. OLLIVIER d'Angers. (*Annales d'Hygiene Publique*, Jan. 1839.)—Numerous cases are on record where needles and pins have been swallowed, from which it appears that, in many instances, they cause no appreciable inconvenience or injury, but, in other instances, give rise to symptoms more or less alarming, depending on whether the pin has penetrated the coats of the pharynx or œsophagus, or transfixed the cartilages of the larynx or trachea, or the coats of the stomach. A pin may remain fixed in the coats of the stomach, without its presence causing much uneasiness. M. Ollivier saw a pin bent on itself, traversing a fold of the mucous membrane of the stomach, in the body of a patient who had fallen a victim to the operation of lithotomy. In this case there was only slight thickening, with induration of the coats where they were pierced by the pin. Another case is related where a brass pin, about fifteen or sixteen lines in length, merely caused slight uneasiness in the part supposed to be occupied by that body, so long as it remained in the intestines; but all unpleasant symptoms disappeared when the pin was expelled.

In certain cases the needles and pins which have been swallowed make their appearance under the skin, in different regions of the body, giving rise to the formation of small abscesses, on opening which the pins or needles may be extracted. Cases of this kind are on record, where hundreds of pins have been swallowed, and yet have not caused death, the patients having died of other diseases. Dr. Silvy, (*Mem. de la Soc. Med. d'Emulation*, vol. v. p. 181,) in a mania-

cal case which he attended, made out the existence of 1400 pins in various parts of the muscles of the body and limbs, many of which he extracted during life. This person died of *phthisis pulmonalis*. A very singular circumstance was, that none were found in the lungs. —A case is also mentioned, which occurred under the care of Dr. Villars, (*Dict. des Sciences Medicales*, Tom. vii. p. 66,) where more than 800 needles and pins were extracted from the various parts of the body. The patient was a young girl, who for twelve days was in a state of delirium, during which time she had swallowed these needles and pins. They appeared over the whole surface of the trunk and of the limbs, and were successively extracted. She recovered.

These bodies are not, however, always thus harmless when introduced into the body ; for cases are recorded where serious diseases, and even death have been produced by them. Arnaud and Saviard (*Journal de Savans*, Nov. 1791,) found large pins in the testicle; they had found their way into this organ, and caused in it the development of carcinomatous degeneration. Schenck (*Obs. Med. Chir. lib. 3. Obs. 10*) relates a case where a needle which was swallowed pierced the coats of the stomach and liver, and caused death. Bayle (*Nouvelles de la Republique des Lettres*, Jan. 1795, Art. 5,) relates the case of a man who complained, for a long period, of an acute pain in the hypogastric region, where a collection of purulent matter formed. On the abscess being opened, a very large quantity of fetid purulent matter escaped, and the discharge continued for months. At last the patient died, worn out by the excessive discharge ; and it was found, on dissection, that the abscess extended to the ureter ; the coats of this tube were ulcerated, and a pin was found transfixing the thickness of all the coats. Dupuytren (*Traité des Blessures par armes de guerre*, Tom. i. p. 82) gives the case of a maniacal woman, who fell a victim to the numerous abscesses which formed over the surface of all the body, and in all of which needles or pins which she had swallowed, were found. M. Guersaut has also related to the author a case, where a fatal result followed the swallowing of a needle. A child was seized with vomiting, which continued obstinately for several weeks, and, from the symptoms which accompanied it, it was feared that softening of the stomach had taken place. The child died after two months of constant suffering ; and, on dissection, a needle was found at a little distance from the pylorus, traversing the coats of the stomach, and fixed pretty deeply in the substance of the liver. No inflammation existed round this foreign body, which had evidently been the cause of the sufferings and death of the child.—*From the Edinburgh Medical and Surgical Journal*, April, 1839.

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PART I.
ORIGINAL COMMUNICATIONS.

ART. IX.—*Observations in Reply to a Paper published by Mr. H. Carmichael in the Dublin Journal for January, 1839, on the Position of the Placenta, &c.; in which also an Attempt is made to point out the Circumstances which determine the Situation of its Attachment, and to account for the Occurrence of Placenta Prævia.* By RICHARD DOHERTY, M.D., and Licentiate in Midwifery, Edinburgh; Clinical Clerk to the Lying-in Hospital, Rutland-square; Secretary to the Obstetrical Society, and lately one of the Physicians to the Parochial Dispensary of St. Thomas, Dublin.

[Read before the Dublin Obstetrical Society.]

IN common with many of my professional brethren I lately derived great pleasure from perusing a paper published by Mr. Hugh Carmichael, in the Dublin Journal of Medical Science for January last, “On the Position of the Placenta or After-birth in the Womb during Pregnancy, and on the Manner the latter Organ

expands therein; as also of its subsequent Contractions in the Process of Parturition." Struck with the ingenious and novel manner in which the author explains one of Nature's most mysterious operations, I determined to lose no opportunity which the vast field for observation afforded by the Lying-in Hospital, Rutland-square, permitted me to enjoy, of testing the views there put forward; and having already met several cases, whose history I consider incompatible with them, I shall proceed to detail objections founded on those cases, (and I think fairly deducible from them,) which appear to me fatal to his theory.

Mr. Carmichael, having proved it essential to the life of the foetus, that an uninterrupted communication be maintained between the child and the placenta, details the opinions generally entertained on the subject of his investigations; namely, that the placenta, on its formation, is attached to or near to the fundus uteri, and continues in that position throughout pregnancy, with occasional deviations, all of which, except those at the neck and mouth, are compatible with safety, indeed immaterial; that the expansion of the womb is produced by a general increase of its parietes yielding in all directions, the neck and mouth being the last to expand, and that its contractions proceed in a corresponding, but retrograde order, the fundus first contracting, and afterwards the other parts in all directions, the placenta in each of the two latter continuing at the fundus throughout the entire process.*

Admitting the original position of the placenta at its formation to be at the fundus, Mr. Carmichael denies that it continues in that relative situation throughout gestation, and endeavours to prove the result of such an arrangement should be, a partial separation followed by hæmorrhage during the growth, or at all events during the contractions of the uterus. And the reasons he assigns for these opinions are two-fold. In the first place, the principal growth of the uterus is, as must be admit-

ted, at least with respect to a longitudinal direction, in that part of it situated above the Fallopian tubes, where the enlargement, he says, is too extensive to permit the placenta to keep pace with it, or maintain its connexion unbroken. And secondly, when the uterus diminishes its capacity, its contractions, which are most probably in an inverse ratio to its former development, will be most intense at the fundus, and must have the effect of detaching the placenta, if there situated. As confirmatory of these views the talented author brings forward six cases, he had an opportunity of examining at the full period of utero-gestation, in all which he found the placenta low down at posterior part of the uterus. He notices also the facts, that he never, on applying the stethoscope to the abdomen of a pregnant woman, heard the placental murmur in any other region than the iliac fossa, nor did he, in his frequent observations on the secundines, ever meet a natural case, in which the after-birth did not correspond to that situation.

He therefore declares his conviction to be, that the placenta does not occupy the fundus of the womb during gestation; but its true position there is its posterior part, probably the lower down the further gestation is advanced. That the enlargement of the womb does not take place, by a general expansion of its boundaries, rising upwards and distending in all directions, while they preserve their relative position with respect to each other throughout; but this increase occurs on the anterior wall principally, the superior portion of which in succession occupies and passes over the fundus, leaving the posterior part, to which the mass is affixed, undisturbed during the process. And viewing the grades of uterine contractions as the converse of those of its expansion, he considers those contractions to be confined chiefly to the parts engaged in the latter, while the posterior part of the womb where the placenta is lodged, like as it is in expansion, remains undisturbed during the last process also. He further supposes, as the contractions of the womb necessary for the expulsion of the child appear to be

confined to its anterior and superior part, that when the placenta is situated above its usual position on the lower part of the back of the uterus, it comes within the range of those early contractions, and is thus partially detached with the consequences thereof.*

Mr. Carmichael's arguments resolve themselves into three heads. 1st. In healthy and natural pregnancies, the placenta is never implanted on any part of the uterus, save the inferior part of the posterior wall. 2dly. If the placenta form its attachments in any other situation, its growth cannot correspond to that of the womb, and early separation and its attendant circumstances must follow. 3dly. In the latter case, even though it should be able to maintain its adhesions uninjured throughout pregnancy, the consequence of the uterine contractions, when labour begins, must inevitably be its detachment, followed by hæmorrhage. In fact, according to him, such an untoward occurrence will form as truly an instance of unavoidable hæmorrhage, as where the placenta is placed over the mouth of the womb. Before stating my objections to these propositions, I shall take a brief and hurried view of the changes, which take place in the uterine system on the accomplishment of fertilization, and endeavour to discover whether any reason can be assigned why the placenta should choose one place rather than another for its location.

The ovum, having been impregnated, is protruded from the Graafian vesicle, and surrounded by fluid, and the granular membrane passes into the winding and irregular passage formed by the fallopian tube. After a certain space of time, it arrives at the termination of that tube in the uterus, in which, meanwhile, certain changes have been effected. This organ has taken upon it a new action; furnished with a large supply of blood, its structure has been loosened out, and its capacity enlarged; its walls have secreted a continuous layer of flocculent lymph, which

completely covers them ; the os has been mechanically occluded, and into the perfect chamber thus formed is poured a fluid of a rose colour named the hydro-perione. When then the ovum at the extremity of the fallopian tube descends into the uterus, it necessarily pushes before it the membrane which covers the orifice, and thus forms what has been named the decidua reflexa ; and when first seen it appears as a sac, on which the embryo becomes visible, according to Majendie, about three weeks after conception. When this minute structure is still further evolved, two membranes can be detected, the outer called the chorion, and the inner the amnion, between which some gelatinous fluid exists, whose quantity diminishes according as the process advances. Within the amnion, too, is a further supply of fluid, in which the embryo, having detached itself from the ovum, at length floats, and appears attached by its cord to the placenta, which has been formed in the following manner :—

The chorion, or external membrane, at an early period is observed to be covered with villi, that implant themselves on the reflexa, and, by performing the office of imbibition or permeation, enable the embryo to support its vitality. But, as soon as this being has arrived at a certain stage of development, and requires a more complicated apparatus for its nutrition, (whether merely to change the qualities of the blood already formed, or to add to it an essential ingredient,) it sends forth its vessels, which, uniting with the chorion, pierce the reflexa at one point, and then spread themselves out in the decidua corresponding to that point. Thus then is laid the foundation of the future placenta.*

* I think the description usually given of the mode of formation of the placenta liable to mislead. It is commonly said the villosities of the chorion shrink over a part of that membrane, while the remainder forms the placenta. This is not so. Carus has shewn that these villi are merely absorbents, like those on the mucous coat of the intestines, being filiform and terminating in little roundish bulbs or

With respect to the place at which this occurs, I need scarcely pause to refute the opinion of Brunner and Stein, that it depends upon the posture the woman assumes during the successful coition; nor that of Osiander, who refers the occurrence of placental presentations, either to the female having walked about immediately after fecundation, or to the size of the uterine cavity in those who have borne many children. The well-known facts that the ovum does not enter the uterus for many days after impregnation,* and that unavoidable hæmorrhage is met with, even in primiparæ, are quite sufficient to overturn their hypotheses. Nor is the opinion advanced by Schweighœuser, of Strasbourgh, one whit more tenable. This author attempts to account for placental presentations by supposing that at the time of its formation (the second month,) the uterus was placed very obliquely from before backwards, so that the posterior part of the neck was the highest point, and therefore, says he, the seat of the placenta.† This conjecture leaves altogether out of consideration the reflexa; and it appears to me quite gratuitous and problematical to imagine the posterior

ampullæ. Breschet also denies the existence of vessels among the fibrils of the chorion. The fact is, all these villi are absorbed and gradually disappear, while an entirely new system, consisting of arteries and veins, takes their place; and that this system owes its origin to the embryo is exemplified by a preparation in the Museum of the Royal College of Surgeons, London, (quoted by Granville, page 20,) in which are seen the fœtal vessels, having formed the cord, ramifying, not on the decidua, but on the transparent membranes, which form the septum between the two sacs of a twin conception.

* The observations of Prevost and Dumas and of Majendie shew that before the eighth or tenth day, nothing can be perceived in the uterus which indicates the presence of a new being. Velpeau informs us, that, according to his experience, the twelfth day is the earliest period at which the ovum can be discerned.—*Embryologie*, p. 51. Granville states he saw a perfect ovulum ejected from the womb fourteen days after a single sexual congress, which had taken place the day after the cessation of the menses.—*Illustrations of Abortions*.

† *La pratique des Accouchemens*. Paris, 1835. p. 23.

part of the neck, at least while the uterus is contained within the pelvis,* can ever become its highest point.

The view taken of this subject by Velpeau is more plausible. He considers the direction taken by the ovum on entering the uterus, and consequently the place of its attachment depend on the degree of adherence of the parts of the decidua to that organ. His words are—‘ En entrant dans la matrice l’ovule rencontre nécessairement l’ampoule anhiste, et ne peut aller plus loin sans la décoller; or si l’adhérence de cette ampoule est la même dans toute son étendue, la vésicule suit sa direction primitive, glisse le long du fond de la matrice, que, à l’aide de la caduque semble prolonger le canal d’une des trompes jusqu’à celle du côté opposé, ou bien elle s’arrête en sortant du conduit seminal, et alors c’est à l’un des angles utérins que se fixe le placenta. Si l’adhérence est plus forte en haut qu’en bas, on conçoit que l’ovule puisse descendre plus ou moins près du col; si c’est en avant, il se portera en arrière, et ainsi des autres points.”† Flourens seems also to have adopted the same views, as appears from the following passage: “L’œuf pour arriver dans la matrice, refoule devant lui la portion de la membrane, qui bouche l’orifice de la trompe. Une fois qu’il a franchi cet orifice, il se glisse entre la membrane caduque et la tunique muqueuse de l’utérus.”‡ In none of the collections, however, which I have examined, neither in Dr. Montgomery’s admirable museum, nor in that of the College of Surgeons, nor in the Museum attached to the Lying-in Hospital, have I been able to find a single instance in which the ovum is contained between the decidua vera and the uterus at the fundus or anterior wall, although in many preparations of later date the placenta is attached in those situations. Every early specimen I have seen shews the ovum descending into a

* I am aware of a case in which this did happen at the full time, in consequence of the uterus becoming anteflexed, separating the recti and hanging down between the woman’s thighs.

† *Traité de l’Art des Accouchemens.* Tom. i. page 290.

‡ *Cours sur la Génération, &c. recueilli par M. Deschamps,* page 134. Paris, 1836.

free pouch, which has its commencement at the fallopian tube, and tends to confirm the opinion generally received in this country of the mode of formation of the reflexa, already alluded to. This is particularly exemplified in a preparation in Dr. Kennedy's valuable collection, which exhibits the ovoid sac of the reflexa attached by a narrow neck around the fallopian tube, while the decidua vera appears behind quite distinct and separate from it, except at its commencement, where alone they are continuous.*

In reviewing the foregoing changes in the generative organs, consequent on impregnation, I think it must be evident to every reflecting mind, a wise arrangement exists for the purpose of preventing the ovum from falling towards the mouth of the womb, and there taking up its residence. The reflexa, a membrane which does not exist in quadrupeds, in whom no such danger could arise, must have the effect of maintaining it at the upper part of the uterus. Is there then any provision for determining, to what point of this region the embryo shall become connected?

Allowing that some slight variation in the future position of the placenta may arise from the greater or less facility, with which part or the whole of the decidua covering the orifice of the fallopian tube yields, or rather grows before the ovum, it appears to me there is still another agent, whose effect has been altogether overlooked, but which acts an essential part in the process. I mean the fluids surrounding the germ. Not only must the support the hydroperione affords the reflexa and its contents, but the layers of fluid within the ovum itself, must float the embryo towards the highest point of the uterus, to which its membranous envelope, adherent as it is around the margin

* Another objection that may be brought against Velpeau's theory is, that if the ovum passed between the decidua vera and the uterus, although the membrana serotina, as described by Burdach, would certainly afford a matrix, in which the vessels could expand, there could be no similar membrane found on the internal surface of the placenta; and yet such can in every case be traced. See Maunsell in *Dubl. Pract. of Mid.* page 52. Lon. 1834.

of the tube, will permit it to reach. In other words it must thus be buoyed up to, and kept in contact with, the *posterior* wall in the neighbourhood of the fallopian tube, which from the position of the uterus, even at this period, namely with its axis running downwards and backwards, must form its superior boundary. And accordingly it is here most authors agree its first attachment is usually formed.

But let any of these circumstances be absent, and a very different disposition must result. If the decidua be imperfect, or if the ovum descend into the uterus, before that membrane has acquired sufficient consistence and tenacity to resist its weight, the ovum, I conceive, must make its way to the os, and give rise to most probably a placental presentation.* If, on the other hand, the bladder be permitted to be frequently distended, and thus throw the uterus into an upright or retroverted position, if the fluids be not in sufficient quantity to afford the germ the requisite support, or if the ovum enter, so that the embryonic spot is not on its superior aspect, I cannot imagine what can prevent the vessels from directing themselves, either to the fundus or the anterior wall, or even towards the cavity of the uterus, in which last case they must seek support in vain, and the foetus be blighted.

Let us now follow up the process of gestation and see whether there is any true ground for supposing the placenta cannot keep pace with the womb if attached even above the

* This is an explanation I cannot meet in any author, and yet it seems borne out by facts. In the cases Dr. Lee details, in which he found the fallopian tubes pervious, the ovum had invariably taken up its position at the os, where it was forming its placenta.—*Med. Chir. Tr.* vol. xvii. p. 492. Sir E. Home relates a case of a young woman pregnant eight days, in whom a small ovum was detected near the cervix uteri, in the midst of long filaments of coagulable lymph. The os was completely closed, but the two orifices of the superior angles of the uterus were open.—*Ph. Tr. Lond.* 1817, p. 252. Some doubt has been thrown on this case. The best opinions, however, would seem to be in its favour. See *Ed. Med. and Surg. Jour.*, vol. xli. p. 407. *Ryan's Midwifery*, p. 67. *Granville*, &c.

fallopian tubes. The placenta having been thus formed, enlarges, for the most part, equally in all directions, and at the full period of utero-gestation, is a flat substance, generally of a circular figure, consisting of a congeries of vessels united by cellular tissue. Its internal surface is covered with the foetal membranes, its external surface is uneven, and divided by deep sulci into numerous lobes. The size of the mass varies in different cases, from five inches to nine in diameter. Its most usual measurement is six inches.

Meanwhile the uterus continues to enlarge, and here I am happy to agree with the author in his statement, that the greatest development, in a longitudinal direction, takes place at the fundus, which increases from one-fourth of an inch, its measurement in the virgin state,* to about five inches, as is evident from the relative position of the fallopian tubes. It is well known, that the uterus, during the first three months, remains in the pelvis, and its absolute increase is slow. Still I consider, that in any calculation, an allowance should be made for the enlargement it has already undergone before the placenta is begun. Until about the middle of the second month, the vessels do not implant themselves in the decidua to form the placenta.† Before this period the uterus has at least doubled its original size, it has enlarged in all directions, but the capacity of its fundus especially has increased to enable it to receive and accommodate the ovum. The fundus is then about a half an inch in length. The ratio, therefore, in which this part increases during the remainder of gestation, is probably as one to ten. It must be obvious, that at the first appearance of the placenta, that body adheres to a portion of the wall of the uterus corresponding to it in size. Let us, for the sake of argument suppose, that each then forms a circular figure of one-half an inch in diameter, and

* The middle of the fundus rises one-fourth above a line drawn from the insertion of the one tube to that of the other.—Burns' *Principles of Midwifery*, p. 49.

† Alison's *Outlines of Physiology*, p. 294.

it must be immediately apparent, that instead of the uterus enlarging more rapidly than the placenta, the latter (as it expands, in every direction, in the ratio of one to twelve) must actually encroach upon the former. But besides, we must remember, the subdivision of the placenta into lobes not always of equal growth or equal magnitude, the deviations from the circular figure, and the greater development so frequently observed at one side of the cord than at another.* The effect of such arrangements cannot but be, to enable it to adapt itself to the wall of the uterus, and maintain a correspondence with it in whatever direction and at whatever rate it be enlarging.

But, laying aside theory, let us inquire, is Mr. Carmichael correct in his positions, that the placenta in natural pregnancies is always placed low down on the posterior wall, and that its being implanted in any other situation must *ex necessitate* during the growth of the uterus, or at least during its contractions to expel the foetus, cause a premature detachment and consequent hæmorrhage. These propositions I shall consider together, and I submit, that if I succeed in bringing forward cases, in which the placenta was otherwise affixed, and yet no hæmorrhage occurred before the birth of the child, I shall have gone a great way in sapping the foundations of the author's interesting, but fallacious theory of the mode of contraction of the uterus.

I must premise, however, that I cannot admit such complications, as a morbid adhesion of the placenta, or a slightly contracted pelvis, or even an arm presentation, to be "sufficient to vitiate the arrangements of nature," and consequently, that "any thing met with in such a case cannot be looked on as an authority, or standard, or general rule in generation." The deposition of a morbid structure upon the placenta, a change

* The form of the placenta is susceptible of a multitude of variations. Harvey, *Exercit.* 70. Lamotte, *Observ. et Reflex.* 383. Baudelocque, &c. The latter author has seen the placenta hollowed out like a kidney. I shall hereafter relate an equally curious disposition.

occurring most probably *after* its formation, cannot surely be supposed to influence its position; nor can I conceive, in what way an unusual contraction of the pelvis could modify the course the foetal vessels take to attach themselves to the maternal structures. In the case of an arm presentation, indeed, the original position of the foetus may perhaps be looked upon as cause or effect of a deviation from the usual situation; but it will not explain why hæmorrhage did not occur during labour, in the instance I shall hereafter relate.

I. The first case I shall bring forward is one, to which I was called on the 5th of June, 1838, in my capacity of physician to St. Thomas's Dispensary. I was informed the woman was dying in consequence of loss of blood after delivery. On my arrival I found her pulseless, her features sunken, extremities cold, uterus large and hard. Having given her stimulants, and in vain tried by the usual means to cause the womb to expel the placenta, I prepared to extract, and introducing my hand separated it with little difficulty from the *lower part of the anterior wall*. Its surface extensively presented that gritty degeneration, so frequently seen in such cases. On inquiring into the history of this patient, I was informed by the midwife and other attendants, that her labour had been short and favourable, and no unnatural loss took place, until about half an hour after the birth of the child, which was alive and healthy.

Here then is a case, in which strong uterine contraction existed for four hours, without detaching the placenta, although it did not adhere to the posterior wall; but, as soon as the uterus had rested after the fatigue of labour, and established the peculiar action by which it throws off the after-birth, it succeeded in, at least partially, separating it, and hæmorrhage ensued. Why, I would ask, were the strong expulsive efforts unable to effect as much, (particularly as so little assistance was required to peel it from the uterus,) although this placenta was situated where, it is asserted, uterine action principally, nay

almost exclusively, resides? I may add, that as soon as the after-birth was detached, the uterus acted naturally, and expelled both it and the hand together, yet I did not perceive any such partial or rotary contraction as is described.

II. Bridget Nicholson, æt. 26, a plethoric countrywoman of rigid fibre, was admitted into the Lying-in Hospital, Rutland-square, on the 8th December, 1838, in labour of her second child. The pelvis was rather undersized in its dimensions. For some time labour appeared to go on favourably, though slowly; but after several hours had elapsed, and it was evident the head was not advancing in consequence of the want of a good tonic contraction of the uterus, borax was first tried, but this being found useless, three half drachm doses of ergot were administered with intervals of half an hour. The first two doses produced powerful uterine action, the last none. It was ultimately considered necessary to resort to instrumental delivery. After the removal of the child the uterus remained large and flat, by no means an uncommon sequel to the use of ergot. The placenta could not be removed by pressure, and at last it was requisite to pass the hand to detach it, which was accordingly done by Dr. Dwyer, the senior Assistant Physician of the Hospital, who stated, it was placed on the *anterior and upper part* of the uterus.

Here then is an instance in which labour was prolonged for *many* hours, during a great part of which strong uterine efforts existed, nay even the uninterrupted tonic contractions produced by ergot were called into action, and yet no hæmorrhage occurred, no separation of the placenta was effected, although it was exposed to their violence, and placed in the very situation in which they are supposed by the author to be strongest and most efficacious, and where to arrive at its then position it must, according to his views, have undergone a considerable degree of rotation.

III. Anne Dunne, æt. 35, pregnant for the first time, came into hospital at half-past four o'clock on the 19th February,

reporting herself to have been in labour from 10 A. M. Membranes ruptured at noon. On admission, the right hand of the foetus was found lying outside the vulva; external parts rigid, os uteri encircling the upper part of the humerus, but not sufficiently dilated to permit immediate delivery. Uterine action was suspended, as it usually is with persons who have just arrived. She was put under the influence of tartar emetic, and when the proper period arrived, Dr. Kennedy, the experienced Master of the Hospital, passed his hand and brought down the right foot. Labour was now allowed to proceed unaided for some time. Pains came on, and in a quarter of an hour the breech was expelled beyond the external parts. Assistance was then rendered in the usual way to bring down first the arms and then the head. Dr. Kennedy reported the placenta to be felt in this case while grasping the leg, *anteriorly and high up*. She was so restless, that no satisfactory stethoscopic examination could be made. No hæmorrhage took place, either before or subsequently to the extraction of the child.

The observations I have made on the former case are also applicable to this. Here labour existed sufficiently long to rupture the membranes, and expel the hand even beyond the external parts, before any manual interference was had recourse to; the uterus was afterwards allowed spontaneously to expel the foetus, as far as the breech,—it contracted fully upon the child during its extraction, and yet this woman sustained no unnatural loss, notwithstanding the placenta being placed in the prescribed situation.

IV. Mary Byrne, æt. 21, was delivered in hospital, on the 10th March last, of a foetus in the eighth month, her first child, after a labour of fourteen hours. This woman was saturated with syphilis, having venereal laryngitis and numerous condylomata on the vulva and around the anus. Two hours after delivery the uterus was found as high as the umbilicus. There was no external hæmorrhage. On making pressure to expel the placenta, it was found it could not be thus removed; a small

quantity of blood was alone discharged. Examination being thus made, the os uteri was found contracted around the cord, rendering the introduction of the hand unavoidable. The stricture having been dilated with difficulty, the placenta was found still attached to *the upper part of the right side* of the uterus, extending to the anterior wall. It was easily separated, and the uterus being induced to contract regularly, it was withdrawn.

This then was another instance, in which the placenta was situated in the very midst of the uterine contractions, and yet no separation occurred during a labour of fourteen hours, nor until the period arrived at which the mass is naturally thrown off, when a trifling quantity of blood flowed into the uterus.*

V. Elizabeth Hoey, æt. 32, who had been delivered about two years previously with the crotchet, in consequence of an immense projection of the promontory of the sacrum, was suddenly seized with profuse hæmorrhage on the 16th May, following the occurrence of a slight dilating pain. She had then gone to her full time in her second pregnancy, during which she had not had discharge at any former period. When visited, the flooding had ceased, the os uteri was scarcely the size of half a crown, and a bit of placenta covered its anterior segment. Plugging was then resorted to, and having obtained the advice and assistance of Dr. Herdman, when the soft parts were in a condition to permit delivery, I passed my hand, and turned.

* I know it may be objected to this case, that the placenta was found as described, because the anterior wall had undergone a certain degree of contraction. But to arrive at that place, it must at least have been originally placed high up on the posterior wall, and therefore have "come within the range of the early contractions." Why then was there not hæmorrhage during labour? But besides, the uterus, while expelling the child, became much smaller than it was afterwards found, as it is an invariable rule in the hospital to follow down the fundus with the hand, and if necessary use gentle stimulation to insure its tonic contraction. The placenta must, therefore, according to the author's theory, have undergone a considerable degree of rotation. Why was not extensive separation the consequence?

Great difficulty was experienced in bringing the child through the contracted brim, and it was requisite to pierce the head behind the ear, before it could be extracted.

In this case the placenta had assumed a curious modification. In consequence, perhaps, of a deficiency in the fluids, while the uterus was thrown very much forwards by the projection of the sacrum, the embryo had attached itself to the anterior wall, over which, and partly over the lateral parietes, the placenta had grown in a panduriform shape, and at the period of delivery extended from the fundus (which it also partly occupied) to the os tincae. It was fifteen inches in length, about seven inches in breadth at each of its rounded extremities, and in the centre constricted to five inches. At the latter place, the cord was inserted close to its left margin.* This then affords another instance in which (notwithstanding the great extent of surface covered by the placenta, and its being affixed to the anterior wall) no separation took place during gestation, nor did the shedding which occurred owe its origin to the contractions of the part of the uterus on which it was placed, but to the dilatation of the os uteri detaching some of its adhesions, and opening the maternal vessels.

But I am not obliged, in order to support my objections, to resort to cases in which some extraordinary difficulty existed; although it is in such cases alone, for the most part, we have an opportunity of satisfying ourselves, by the introduction of the hand, of the point at issue. Even though the foregoing be deemed unsatisfactory, and no reliance be placed upon them "as an authority in generation," the case, I am now about to relate must, I conceive, be conclusive on the subject. In addition I have to observe, that since the publication of the paper in question, I have made it a rule to inspect the secundines of every patient delivered in my presence, and on two other occa-

* This placenta Dr. Kennedy exhibited at the Pathological Society, on the 18th May.

sions I found the membranes adhering to the anterior edge of the afterbirth much shorter than those on the posterior edge, although there was no other breach than the opening through which the child had passed, and yet both cases were natural. I had not in either instance an opportunity of making a stethoscopic examination before delivery.

VI. The last case I shall cite is that of Mary Heron, æt. 24, pregnant for the third time, who was admitted into hospital on the 13th February last. Labour set in regularly on the following day, about nine o'clock, A. M. On examining this woman, I found the placental souffle distinct and sonorous, as if situated immediately under the stethoscope, in the right and upper angle of the uterine tumour. In the opposite angle the souffle could likewise be heard, but not at all so distinctly. It was also faintly audible across the fundus of the womb. In tracing it downwards from the right angle of the uterus, it gradually grew weaker, until, at last, it was entirely lost about an inch below the umbilicus;—not the slightest murmur could be distinguished in either iliac fossa.

To these facts I not only directed the attention of several pupils, who happened to be in the ward, but I also pointed them out to Dr. Herdman, the Assistant Physician on duty, who satisfied himself of their correctness. Labour proceeded steadily from nine o'clock, A. M. till five, P. M., when the membranes ruptured, and, in an hour after, the patient brought forth a living female child. The placenta was expelled by a renewal of the uterine action, twenty-five minutes afterwards.

If now we analyse this perfectly natural case, according to Mr. Carmichael's views, we should expect several circumstances to exist. In the first place, it would be reasonable to infer, as indeed was afterwards verified by examination of the secundines, that the sound indicative of the presence of the placenta, having been heard at the fundus, more plainly at the right angle and feebly at the left, that substance actually was affixed in the situation thus pointed out. And yet how contrary is this to the

author's assertion, that the placental murmur is never heard at the fundus, nor is the placenta ever situated there.* Such being the case, then, in the second place it was to be supposed, that the uterine contractions would constrict the vessels, interrupt the function of the placenta, (and consequently destroy the life of the child,) and most probably detach it altogether, and that too "very early in the process of parturition."† No such effects, however, were produced; the labour proceeded naturally, the infant was born alive, and no hæmorrhage at any period took place.

But supposing that the uterus could contract in the way described, (namely, by the anterior wall shrinking within itself, and making the upper part of the posterior wall, first become the fundus, and afterwards amalgamate itself with the anterior paries,) without producing the ill effects anticipated, still another objection, founded upon the foregoing case, may be urged against this theory. If the uterine contractions were thus effected, it should necessarily have happened, that the bruit, which was faintly heard across the fundus about an inch below its highest point, should gradually have mounted upwards; and as labour proceeded, and that portion of the posterior wall, to which the placenta was attached, at last assumed an anterior position, it should have become louder and louder, until it developed itself in full intensity under the instrument placed in the centre of the uterine tumour below the fundus. And the situation of this distinct murmur should from that period have descended, according as the capacity of the uterus diminished, until at length it almost arrived at the pubis. This appears a fair deduction from the author's observations. But instead of such being the facts, I most explicitly declare, that no change whatever was observable in the position of the placental souffle, nor was there any alteration in its relative intensity in the regions of the uterus.

* Page 460.

† Page 455.

Again, if such a revolving movement took place, as the membranes remained uninjured, until the foetal head had been impelled deeply into the pelvis, I suspect the orifice, through which the child passed, should have shown, that at the time of their rupture, the placenta was situated on the *anterior* wall. But on the contrary, the membranes at the anterior edge of the placental mass were rather longer than at the posterior edge, and the pouch formed for the fundus was somewhat anterior to that organ; thus pointing out its situation to have been, all through labour, the same as stethoscopic examination already proved it to be.

From the foregoing cases I think it is obvious, that to avoid the early separation of the placenta, and its attendant consequences, it is *not* necessary, that that substance should adhere to the back part of the uterus, or even to any region, in which contractions do not take place, save for the purpose of detaching its own connexion.

But furthermore, I maintain, that no such contraction, as that for which Mr. Carmichael contends, could by any possibility be effected by such structures as, anatomy shows us, alone exist in the genital organs. The only resemblance in the body to such a rotatory movement, is the pulley-like contraction of certain muscles, such as the digastric, the obliquus superior oculi, the circumflexus palati, &c. In all these, there are necessarily present, at least one strong attachment to a bony structure, which during the action of the muscle acts as a fixed point, and a collar in which the muscle plays, and which serves to retain it in its proper place. Where then are we to find such an arrangement in connexion with the generative organs?

The vagina, to which the uterus is attached below, during parturition, dilates and becomes more relaxed in its tissues, and could not act the part of such a firm bond of union; nor could any of the ligaments by which the womb is supported, but not fixed in its natural situation. Even the round ligaments which have been supposed, erroneously, I think, to perform the office

of tendons to certain of the uterine fibres, do not take a direction, that would enable them to be of any service in the newly proposed action. On the contrary, the uterine contraction must, by bringing their points of attachment nearer to each other, prevent them from giving any fixity to the organ. Where then are we to seek the point around which the fundus turns, and without which, such a partial contraction of the uterus must, instead of producing a revolving movement in that part, draw it directly downwards, and cause the convex fundus to assume a flattened form.

The author attempts to supply this deficiency, by assigning to the foetal body the office of a fulcrum.* I am not prepared to deny that such perhaps might be the case, if the remainder of his theory were correct; but I would inquire, what fulcrum can there be, where the uterus, having expelled the child, again “relaxes completely,” as in the case which that author brings forward, as the fifth instance where he found the placenta on the posterior wall? What prevents us in such a case, when causing contraction by external pressure or the application of cold, from feeling the fundus grow flat under our hand? How is the rounded prominent appearance of the fundus maintained?†

Such are the considerations which, to my mind, throw a doubt upon the validity of the theory proposed by Mr. Carmichael. The subject of the contraction of the uterus, and the mode in which the placenta maintains its adhesions undisturbed, and its function unextinguished, during the uterine efforts, are certainly involved in great obscurity, and the explanation offered by that gentleman (obviously the result of deep thought and extensive research on this curious subject) carries with it such apparent truth, that it *deservedly* excited great attention in the profession. But I trust I have demonstrated the incorrectness of his premises, and the fallaciousness of his conclusions, with

* Page 473.

† Page 475.

respect to these points. If I have succeeded in doing so, I need scarcely allude to his theory of the development of the uterus. If the assumed mode of contraction be not the true one, there is no necessity for imagining its growth to be confined almost entirely to the anterior wall. The old doctrine, indeed, that all the parts of the womb enlarge, holding the same relative position to each other, but being allowed a certain latitude in the degree and period of their expansion, affords, I think, a much more ready solution of well known facts connected with gestation. It accords with the different forms the uterus assumes at the several stages of pregnancy; its being first pyriform, then oval in consequence of the increase of its transverse diameter at its central and lower part, and becoming at last globular, when the cervix has also dilated. It explains too the phenomena observable in placental presentations, in which the hæmorrhage, consequent on expansion of the uterine parietes, occurring where the placenta has not the power of accommodating itself to the change, in general takes place almost entirely in the three last months.

But while thus employing myself in the useful, but by no means agreeable office of testing the views of another, I own, I have myself no theory to bring forward, no new speculation to offer. It is still to me a mystery, how the functions of the placenta continue uninterrupted during labour, and by what means that organ is enabled to remain adherent, until the proper time at which it should be thrown off. The only opinion apparently at all probable is, that during the expulsive process the contractions are confined to the external layers, and only partially affect the central substance of the uterus, in which its vessels are imbedded, producing thereby not an absolute arrest of the circulation, but for the most part changing the souffle into a pulsation, as may be observed during the continuance of the pains, and that it is only *after* the child is expelled, the internal surface feels what Hunter calls the stimulus of necessity, which causes it to corrugate itself, and so cast off the substance at-

tached to it. But for various reasons even this explanation is exceptionable, and I still think, in the words of Mr. Carmichael, that "the nature of the contractions of the womb is not well understood, and that something yet remains to be known generally on the subject."

ART. X.—*Researches in Operative Midwifery*. No. 2. *Version or Turning*. By FLEETWOOD CHURCHILL, M.D., Physician to the Western Lying-in Hospital and Dispensary, and Lecturer on Midwifery, &c. at the Richmond School of Medicine.

Neque temerè neque timidè.

THE term *version* or *turning* is applied by midwifery teachers, generally, to that manual operation by which one presentation is substituted for another, less favourable; and in a more limited sense, to the rectification of certain malpositions.

For the furthering of one or other of these purposes, it has been known to the profession for a considerable period, but the full benefit of the operation and the class of cases in which it is useful is of much later discovery. A slight sketch of the history of the operation may perhaps be not uninteresting. Among the ancients, we find Hippocrates referring to bringing down the head. Celsus^a advises us to seize the feet when the head is not within our reach, but this is only to be done when the child is dead. Ætius and Paulus Æginetus are the first ancient writers who recommend this manœuvre to be attempted with a living child. Rhodion,^b Franco, and Ambrose Paré^c mention the operation as a usual one, but without much detail. Guillemeau, however, who was a pupil of Ambrose Paré's and who may have been indebted to him for his knowledge on

^a Lib. 7, cap. 29.

^b Des divers Accouch. fautt. 25, 27.

^c Livre 24, ch. 33, p. 700. Dated 1573.

this point, enters into minute details, and displays perfect familiarity with it.

It will, I think, be more distinct and intelligible, if we trace the history among our own writers first, and subsequently among those of France, &c. The first midwifery book ever printed in English, is Raynald's "*Byrth of Mankinde, or the Woman's Boke*," dated 1634. It professes to be a translation from the Latin, with additions. The author seems to have had some notion of rectifying the erroneous circumstances (or what he thought to be such) of head presentations, but he makes no reference whatever to bringing down the feet. For instance he says, "when the childe cometh headlong, one of the hands coming out and appearing before, then let the byrth proceed no farther, but let the midwife put in her hand and tenderly by the shoulders thrust in the byrth again, so that the hand may be resettled in his place, and the byrth to come forth ordinarily and naturally."^a Similar directions are given for the management of footling cases.

In 1635, Guillemeau's work was translated into English;^b and thus we owe to the French our earliest knowledge of this operation. He does not, however, seem to have regarded it as peculiarly suitable in arm presentations, for his rules in such cases are the same as Raynald's;^c but he gives full directions for extracting by the feet, when they are discovered to be near the os uteri,^d impressing upon the reader most strongly the necessity of seeing both feet; "for it were enough to teare the child asunder, and so kill both him and his mother, to draw him forth by one foot." When speaking of presentations of the "belly and breast," after recommending cephalic version, he proceeds: "But if the head cannot be easily brought downwards, or that

^a Book 2nd, chap. 3, p. 105.

^b Child-byrth, or the Happy Delivery of Women, &c.; written in French by James Guillemeau, the French King's Chirurgion.

^c Lib. ii. p. 148.

^d Page 154.

the belly and top of the thigh be nearer unto the passage, then the chirurgion shall put his right hand along the child's thigh, to finde one of his feet, which being found he shall cast about it a riband with a sliding knot, and then shall he seek for the other and bring them both gently to the passage, and so draw him forth by the feet."^a

In some cases of powerless labour he practised it as a very efficient remedy,—of which I extract the following example:^b “Being at Moret with Count Charles, I was called, together with the late Mons. de la Corde, one of the king's physitians, to deliver a poor woman which had been in travail two days and two nights; the waters being broken and the child left dry, the necke of her matrice was closed, she being no more urged with pains or throwes, which I observed by slipping my hand up into the said necke, and getting two of my fingers therein, where feeling one of the child's feet, I persuaded myself that I should deliver her well, which I did in this sort: first, when I had placed her well, I anointed my hands with butter and hog's grease melted together, and with store thereof I anointed the inward neck of the matrice, as well as possibly I could; and when I had somewhat dilated the said necke, with three of my fingers, I cast a riband with a sliding knot upon the child's foot, fastening it gently; and then again dilating the said necke, I found out the other foot, upon which I slipped another riband, as I had done upon the former; then did I draw both the ribands and brought the two feet together, which, when I had drawne out unto the buttocks, I beganne againe to anoint as before; and then taking a napkin lest it should slip, I bad the woman force herself as much as shee could possibly, especially when shee felt her pains and throwes coming; and then drawing sometimes directly and sometimes to the one side, so as to enlarge the passage,

^a Page 168.

^b Page 157.

I drew in the child gently, turning the belly thereof downward, that the chin might not catch in the *os pubis*, as I have noted before."

In the "Childbearer's Cabinet," published in London, in 1653, no notice whatever is taken of turning either by external or internal manipulation.

In the "Compleat Midwife's Practice enlarged, by Dr. John Pechey," 1698, reference is made to version in footling cases,^a and in arm presentations, both by external and internal manipulation. "If it happen that the child hasten to the birth, with the legs and arms distorted, the midwife ought not to hasten the woman, but immediately cast her on her bed, where she may direct the woman to roul herself to and fro, or else she may gently stroke the womb of the woman as she lies, till she have reduced the infant to a better posture; if this profit not, the midwife must take the legs and close them together, then if she can she must get her hand about the arms of the child, and in the safest way she can, direct it to its coming forth; *though it be the safest way to turn the infant in the womb*, and by that means compose it to the natural birth."^b

Portal's "Compleat Practice of Men and Women Midwives," was translated in 1705, and was a very valuable acquisition. I shall not enter into details here, as I shall notice the original.

Daventer's work^c was translated "by an eminent physician" in 1716, and in it allusion is made to turning by the foot, as a matter of course, and it is stated that in arm presentations it is not absolutely necessary to return the arm: "and though the arm hanging down in the passage may be less commodiously put back or retained, yet they are to penetrate and seek for the feet; very often the time is lost in putting back an arm or in retaining it, for experience teaches us that sometimes a hand

^a Page 142.

^b Page 143.

^c *Operationum Chirurgicarum novum Lumen exhibentium obstetricantibus, &c. Lugduni Batavorum, apud J. et H. Verbeck, 1733. (2nd Edit.)*

can more easily penetrate when the arm hangs down than when the same is thrust back again."^a

Dionis' work on Midwifery^b was translated in 1719, and was a further addition to the knowledge of the time. He seems to have lost all fear of footling cases, for he objects to their being put back,^c and gives the preference to bringing down the feet rather than the head in some cross births. He says—"Of all labours, that in which the child presents with one arm only gives the sufferer the greatest trouble; for lying crossways in the womb, it is impossible for him to bring it away without turning it." "Some would have us fetch away the child by the head; but it is impracticable." "Whenever I attempted to do it by the head, I had a great deal of trouble, and was sure to be disappointed; wherefore I advise all men-midwives and others who practise the art, to turn the child and fetch it away by the feet."^d In shoulder presentations, however, he recommends cephalic version, when possible, and likewise when the belly or back present.^e

I have noticed particularly these works, because, though they are but translations, yet it was by them that the science of midwifery was improved in this country, and they illustrate its history as well as its original.

A "Mrs. Jane Sharp, Practitioner in the Art of Midwifery above forty Years," published the result of her experience in 1725; but she mentions neither cross-births nor version. Her work is far inferior to those of the French midwives of a still earlier period.

Mr. Chapman,^f who is next on my list of authors, seems to have been so impressed with the value of this operation, that he somewhat overrates its applicability. Thus he remarks, "if

^a The Art of Midwifery improved, translated from Daventer, p. 194.

^b A General Treatise on Midwifery, &c. 1719.

^c Page 210.

^d Page 228.

^e Page 230.

^f A Treatise on the Improvement of Midwifery by Edward Chapman, 2nd edit. is dated 1735.

he (the operator) finds the face of the child turned towards the os pubis, it is much better to turn the infant and bring it out by the feet, than to put the labour upon nature. And again, "thus I say, a child presenting with its head is often to be turned and delivered with the feet first: in all other postures whatever, always with the feet first, and always turned, except when it presents with the feet, and nature has saved the artist that labour and the mother that pain."^a

Mr. Giffard published his cases in 1734.^b He turned and delivered footling in funis, arm, and placenta presentations, in the second of twin children, and in convulsions.^c

Mr. Dawkes, in 1736, published a curious catechism of midwifery, in which he follows the rules laid down by Chapman as to turning.^d

In 1742, Sir Fielding Ould, of this city, published his valuable work.^e He advises turning with the second of twin children,^f in deformity of the pelvis,^g and in arm presentations. "If the hand be not far advanced it must be instantly put back into the womb," &c. &c. "If the hand be so far advanced that it cannot be put back, the operator must dilate the orifice so as to thrust up his hand by the side of that of the infant, taking hold of the feet as above, *and in proportion as the feet advance forward the hand will retire into the womb.*"^h

Dr. Brudenell Extonⁱ (1751) advises the operation in arm, back, funis, and placenta presentations, and in the second of twin children. "But it may sometimes happen if the second child present right, (which it very seldom does,) and the pains strong; so that the waters form themselves immediately, and the head is perceived to follow fast; then, indeed, as nature will in all probability soon accomplish her own work, I think it

^a Pages 32, 33.

^b Cases in Midwifery, by M. W. Giffard; revised by Dr. Hody, 1734.

^c pp. 40, 44, 46, 54, 118, 114.

^d The Midwife rightly instructed, &c., by T. Dawkes, Surgeon, 1736.

^e A Treatise on Midwifery, in three parts, by Fielding Ould, Man-midwife.

^f p. 55.

^g p. 86.

^h Treatise, p. 108.

ⁱ A new and general System of Midwifery, 1757.

may be very safe to leave it to her.”^a He also speaks of rectifying malpositions of head by external and internal manipulation.^b

Mr. Pugh (1754) follows Chapman, and recommends turning in all presentations but the head and feet, and also in the second of twin children; “and so likewise, even in a natural posture, when, for certain causes, the delivery is not promoted, but is rather to be dreaded, and threatens death either to the mother or child, or both, as in violent hemorrhages of the womb, excessive weakness or convulsions, that may happen to the patient during labour, or the pelvis too narrow for the head to pass by the force of the pains, it may be necessary to turn and bring away the child by the feet; for as in all these cases, both mother and child run a great hazard of being destroyed, we must use all possible dexterity and expedition, whilst mother and child have a sufficient degree of strength to go through the operation.”^c

Prior to the date of the last work Dr. Smellie published his “Treatise on the Theory and Practice of Midwifery.” I cannot exactly say in what year it appeared; the sixth edition which I possess is dated 1765. He mentions three classes of preternatural labours, in which turning is requisite and may be accomplished.^d

Dr. Cooper^e (1766) has given very distinct directions for the operation, and pointed out very accurately the cases in which it is admissable.

Dr. Burton,^f (3rd ed. dated 1769,) Dr. Memis, of Aberdeen,^g (1765,) and Dr. Foster, of this city,^h (1781), each advise turning in all cross births, and the second named author in the second of twin children, and in floodings.

^a pp. 84, 73, 81, 83.

^b Page 67.

^c Treatise on Midwifery, by Benjamin Pugh, Surgeon, 1754, pp. 34, 37, 39, 35.

^d Vol. i. p. 207.

^e A Compendium of Midwifery, by Thomas Cooper, M. D., London.

^f An Essay towards a new System of Midwifery. 3rd Edit. 1769, pp. 198, 203.

^g The Midwife's Pocket Companion, 1765, pp. 158, 174, 176.

^h Principles and Practice of Midwifery, corrected by Dr. Sims, 1781, p. 190.

From this period version was admitted amongst midwifery operations in all systematic works, and the opinions of practitioners became gradually more definite concerning the cases for which it is suited, and the mode of performing it. As the information contained in these writings will be found arranged in the subsequent portion of this essay, I shall merely (for the purpose of completing this part of the history of the operation) refer to the Works of Johnson,^a Perfect,^b Dease,^c Spence,^d Aitken,^e Hamilton, sen.,^f Edinburgh Practice of Midwifery,^g Haigh-ton,^h Denman,ⁱ Dewees,^j James Hamilton, jun.,^k Merriman,^l Gooch,^m Conquest,ⁿ J. Clarke,^o Ryan,^p Ramsbotham,^q Campbell,^r Ashwell,^s Burns,^t F. Ramsbotham,^u Maunsell,^v Blundell,^w Collins,^x &c., besides a number of detached essays.

^a New System of Midwifery, 1769, p. 219.

^b Cases in Midwifery, vol. i. pp. 31, 171, 222, 224, 263, &c. &c. vol. ii. pp. 110, 264, 271, 281, &c. &c.

^c Observations on Midwifery, by William Dease, Esq., 1783, p. 54.

^d System of Midwifery, 1784, pp. 246, 249, 274.

^e Principles of Midwifery, 1784, p. 98.

^f Outlines of the Theory and Practice of Midwifery, by Alexander Hamilton, M. D., 1784, p. 264.

^g Anonymous, published in 1803, p. 279, *et seq.*

^h Syllabus, 1814, p. 57.

ⁱ Introduction to Midwifery, (1st Edit. 1784 or 5; 7th Edit. 1832.) p. 344.

^j Compendious System of Midwifery, 1825, p. 283.

^k Outlines of Midwifery, 1826, p. 66.

^l Synopsis of difficult Parturition, (4th Edit. 1826,) p. 68.

^m Lectures on Midwifery, edited by Skinner, 1831, p. 232.

ⁿ Outlines of Midwifery, (5th Edit. 1831,) p. 143.

^o London Practice of Midwifery, (1st Edit. 1808, said to be by Dr. John Clarke,) 6th Edit. 1833, p. 238.

^p Manual of Midwifery, 1831, p. 535.

^q Practical Observations and Cases, 2 vols. 1832, vol. ii. p. 47.

^r Introduction to the Study and Practice of Midwifery, 1833, p. 283.

^s Practical Treatise on Parturition, 1834, p. 353.

^t Principles of Midwifery, (I do not know the date of 1st Ed.) 9th Ed. 1837, p. 416.

^u Lectures on Midwifery, &c. in Medical Gazette for 1834, p. 548.

^v Dublin Practice of Midwifery, 1834, p. 142.

^w Principles and Practice of Obstetrics, 1834, p. 389.

^x Practical Treatise on Midwifery, 1835, p. 64.

I shall now proceed to sketch the opinions of the earlier French authors in midwifery, so far as I have access to their works.

The earliest of these works is by Louise, Bourgeois, dite Boursier, Sage-femme de la Royné,^a published in 1617, and she appears to have deserved her name as regards this operation. She speaks of turning in shoulder, side, arm, and funis presentation.^b Touching the latter she observes :

“ Il faut remettre le nombril, (the funis) scituer la femme au travers du lict, la teste et les reins fort bas, afin de faire rentrer ce qui se presente de l'enfant, puis s'estant frotter les mains de beurre frais, *chercher moyen de trouver les pieds* et les conduire à bord, puis faire coucher la femme sur la costè ou vous avez amenez les pieds : puis la remettre sur les reins et si elle a douleur, pendant qu'elle dure, tirer doucement l'enfant, si elle n'en a point, la faire efforcer et pendant l'effort, l'attirer peu à peu et lui donner des relasches pour reprendre ses forces,” &c. &c.

We have already seen that Guillemeau (before 1635) had taught the propriety of bringing down the feet, which method it is said he learned from Ambrose Parè, upon whose instructions, however, he appears to have improved considerably.

M. Viardel^c (1674) speaks of this operation as customary : in arm presentations he tells us “ aller saisir les pieds comme on a coutûme de le faire.” He mentions his turning the head in a face presentation, and his turning by the feet in mal-presentations, and in the second of twin children.^d

In speaking of knee presentations he says: “ Entre une infinité de postures auxquelles l'enfant se presente venant an monde, une des moins difficiles à redresser, c'est lors qu'il presente

^a Observations sur la Sterilité, perte de Fruict, fecondité, accouchemens, &c. Paris, 1617.

^b Pages 77, 78, 79, 80.

^c Observ. sur les Accouchemens, 1674.

^d pp. 106, 112, 142.

par les genoux à laquelle on peut remedier dans fort peu de temps, pour le peu qu'on soit versé dans la pratique des accouchemens, par ce que *dans toutes les mauvaise presentations de l'enfant telles qu'elles soient, nous sommes obligez d'aller chercher les pieds*, lesquels sont bien plus faciles à trouver lorsqu'il se presente par les genoux comme en estant plus pres qu'en toutes autres postures,"^a &c.

Marguerite du Tertre, (1677) seems perfectly familiar with the operation, and describes it with great clearness in cases of twins or malpresentations. Her book is in form of question and answer, one of which I here extract :—

“Quand il presente un bras ou une epaule, que faut il faire ? Si c'est un bras que l'enfant presente, et que la teste soit proche du passage, il faut reduire le bras derriere la teste, la mettre droite, en cas qu'elle fust de costè. Mais s'il presente l'épaule avec le bras, il faut aller chercher les pieds, et les tirer à l'ordinaire.”^b

Velpeau states that this operation was known to St. Germain, (1650,) Fournier, (1676,) and Amand, (1713,) but I have not access to their works.^c

Paul Portal (1685) is very clear in his directions upon the point ; he recommends putting back the arm, and turning by the feet in arm presentations.

“Mais si on ne le peut remettre dans la matrice quoiqu' assez dilatée, celui qui opere, doit glisser sa main à la faveur des bras de l'enfant, jusques à son corps, puis suivre de la cuisse à la jambe et aux pieds, faisant ce qu'il pourra pour les amener tous deux dehors ; ce qui seroit d'un grand secours pour la femme et pour celui qui opere : mais ne les pouvant pas avoir tous deux, il faut s'attacher à celui qu'on trouvera, et le tirer,

^a Page 149.

^b Instruction familiere et tres facile, faite par Questions et Reponses touchant les choses principales q'une sage-femme doit scavoir, &c. 1677, pp. 96, 106, 113.

^c De l'Art de l'Accouchemens, p. 385.

sans se mettre en peine d'aller chercher l'autre, qui se trouve quelquefois fort engagé.^a

M. Peu^b speaks of both species of version, bringing down the head in shoulder presentations,^c and the feet in arm cases.

If the arm cannot be returned he observes " Nous nous contentons de le repousser et de le faire rentrer, pour chercher les pieds de l'enfant, les amener et le tirer selon la metode dont j'ai parlè en divers endroits de ce livre."^d

Mauriceau^e (1715) advises "que toutes les fois que l'enfant se presente en mauvaise posture, il est plus sur et c'est plutôt fait, de le tirer par les pieds." He indicates a point of importance as to the time of operating in some cases.

After relating a case of arm presentation, in which he turned the child, he proceeds: "Il faut donc remarquer que lorsqu'on s'apperçoit qu'un enfant se presente en mauvaise posture, devant que les membranes des eaux soient rompuës, il ne faut pas toujours attendre que ces membranes, se rompent d'elles mêmes ; car il faut quelquefois les rompre, lorsque la matrice est suffisamment dialatée à y pouvoir introduire aisement la main, quoy faisant, on retourne l'enfant avec une bien plus grande facilitè, sans faire violence à la matrice, quand il est encore dans toutes ses eaux, qui n'étant pas ecoulées, et faisant une espece de vuide, joint a leur humidité, rendent l'operation beaucoup moins laborieuse pour la mere et pour l'enfant, que lorsque les eaux etant entierement evacuées, la matrice vient à embrasser immediatement de toutes parts le corps de l'enfant, que l'on ne peut retourner pour lors, sans faire une violence à la mere."

We have heretofore quoted the opinions of Dionis, whose work was published in French in 1718, and in English in 1719.

In 1726 the valuable work of De la Motte^f appeared, he

^a La pratique des Accouchemens, p. 33.

^b La pratique des Accouchemens, 1694.

^c Page 395.

^d Page 401.

^e Mal. des Femmes grosses, &c. p. 266, Obs. 321. 1715.

^f Traite des Accouchemens, 1726.

he treats clearly both of cephalic and podalic version,^a and objects to the old plan of putting back the presenting part.^b

Jaques Mesnard^c (1753) recommends turning in mal-presentation.

Puzos (1759) advises the same in "accouchemens contrenature," and in funis presentations.^d

Subsequent to the date of Puzos' work, we find more or less information on the subject, in the writings of Astruc,^e Raulin,^f Deleurye,^g Maygrier,^h Lachapelle,ⁱ Baudelocque,^j Boivin,^k Capuron,^l Gardien,^m Velpeau.ⁿ

Upon comparing the knowledge of the early English and French writers, it must be admitted (frankly, though reluctantly) not only that the former are far inferior to the latter, but that, on this point at least, the English were indebted to the French for a knowledge of the operation.

I regret that I cannot give much of the early history of this operation amongst the Germans; nor is much to be found in those who profess to notice its history. Kilian^o refers us to the works of Rueff (1600,) Justin Siegmundin, I. Van Hoorn, Stein,^p Chernel,^q &c., and Froriep^r gives a list of authors among whom

^a Pages 173, 369.

^b Page 383.

^c *Le Guide des Accoucheurs*, &c. 1753, pp. 245, 293.

^d *Traité des Accouchemens*, pp. 174, 177.

^e *L'Art d'Accoucher*, &c. &c. 1766, p. 132.

^f *Instructions succinctes sur les Accouchemens*. Paris, 1770, p. 216.

^g *Traite des Accouchemens*, 1770, p. 232.

^h *Nouveaux Elemens de la Science et de l'Art des Accouchemens*, 1814, p. 320.

ⁱ *Pratique des Accouchemens*, 1821, pp. 85, 90, 140, &c.

^j *L'Art des Accouchemens*, 6th Edit. 1821, pp. 625, 660, &c.

^k *Memorial de l'Art des Accouchemens*, 1817, p. 213.

^l *Cours des Accouchemens*, 1828, p. 330.

^m *Traité des Accouchemens*, 1824, p. 364.

ⁿ *De l'Art des Accouchemens*, 1835, p. 385, Brussels Ed.

^o *Die Operative Geburtshülfe*, vol. i. p. 339.

^p *De Versionis Negotio pro genio partus*, &c. 1763.

^q *Diss. de necessario Fœtus in omni Partu præternaturali qui a situ Fœtus vitiato, dependet, versione cum suis cautelis*, 1756.

^r *Handbuch der Geburtshülfe*, p. 410.

the earliest names are those of Kienman,^a Metzger,^b Dethabring,^c Boessel,^d Bausch,^e Weiss,^f &c.

Amongst the later writers, I possess the works of Henckel,^g Deventer (1733,) Plenck,^h Wigand,ⁱ Carus,^j Osiander^k sen., Siebold,^l Froriep,^m Osianderⁿ jun., Jöerg,^o Busch,^p Rosshirt,^q Kilian.^r

All these writers treat more or less systematically of version ; but, as they are subsequent to the period of its adoption generally, I have not deemed it necessary, in this place, to give extracts from them.

The operation is mentioned as a customary one in the writings of Asdrubali^s and Bongioanni,^t the only Italian midwifery authors I have at hand.

Having concluded this investigation into the history of version, I shall next give all the statistics I have been able to obtain as to its frequency and success. In my researches, I have often had to regret the want of attention to minute details, so manifest in many reports of hospitals, dispensaries, &c. I have also, for greater accuracy, quoted the source of my information.

^a De Versione, &c. 1757.

^b De Versionis in Partus negotio periculis, &c. 1788.

^c De determinandis Finibus, &c. 1788.

^d Von der Wendung, 1795.

^e Indicationes pro Conversione Fœtus in partu, &c. 1794.

^f Neues Regulativ zur Wendung, 1824.

^g Abhandlung von der Geburtshülfe, 1770, p. 545, et seq.

^h Elementa Artis Obstetriciæ, 1781, p. 159.

ⁱ Geburt des Menschen, 1820, vol. ii. p. 174.

^j Lehrbuch der Gynæcologie, 1820, vol. ii. p. 292.

^k Handbuch der Entbindungskunst, 1830, vol. ii. p. 320.

^l Lehrbuch der Geburtshülfe, 1831, p. 268.

^m Handbuch der Geburtshülfe, 1832, p. 404.

ⁿ Die Ursachen und Hulfsanzeigen der unregelmässigen und schweren Geburten 1833, p. 320.

^o Handbuch der Geburtshülfe, 1833, p. 436.

^p Lehrbuch der Geburtskunde, 1833, p. 544.

^q Die Anzeigen zu dem Gebutshülfflicher Operationen, 1835, p. 69.

^r Die Operative Geburtshülfe, vol. i. p. 339.

^s Trattato Generale di Ostetricia, 1812, vol. ii. p. 123.

^t Lezioni Elementari di Ostetricia, 1834, p. 294.

DATE.	AUTHOR.	HOSPITAL, &c.	CASES OF VERSION	TOTAL NO. OF CASES.	QUOTED FROM.
1781	Dr. Bland,	Westminster Dispensy.	9	1,897	Merriman's Synopsis.
	Dr. Jos. Clarke,*	Dublin Lying-in Hosp.	48	10,387	Trans. of Assoc. vol. i.
	Dr. Merriman,	London, Private Pract.	14	2,947	Synopsis, 4 ed. p. 335.
1818	Dr. Granville,	Westm. Dispensary,	5	640	Report of, p. 25.
1826	} Dr. Collins,	Dublin Lying-in Hosp.	33	16,654	Prac. Tr. on Mid. p.73.
to					
1833	} Dr. Cusack,	Wellesley Dispensary,	5	313	Dublin Hosp. Reports, vol. v. p. 495.
1828					
1832	Dr. Maunsell,	Do.	2	442	Edin. Journal; No. 117.
1833	Do.	Do.	0	416	Dub. Jour. vol. v. p. 367.
1828	Mr. Gregory,	Coombe Hospital,	3	691	Dub. Hosp. Rep. vol. v.
1834	} Dr. T. Beatty,	Cumberland-st. Hosp.	6	1,182	Dublin Jour. vol. viii. p. 66, vol. xii. p. 273.
to					
1837	} Dr. Churchill,	Western Lying-in Hos.	8	990	See Reports.
1836					
1837					
1838					
			135	36,569	

* This is somewhat uncertain. Dr. Clarke gives 48 *cross births*, which were treated in the usual manner—I suppose by version.

DATE.	AUTHOR.	HOSPITAL, &c.	CASES OF VERSION	TOTAL NO. OF CASES.	QUOTED FROM.
Dec. 1799 to July, 1806	Mad. La Chapelle,*	Maison d'Accouch.	155	15,654	Pratique des Accouch. p. 198.
	M. Baude- locque,*	Maison d'Accouch.	132	12,751	L'Art des Accouchm. vol. ii. p. 554.
1806 to 1808	Mad. Boivin,*	Maternité, . . .	218	20,357	Memorial de l'Art, &c. p. 354.
1808	M. Ramboux,	Clin. de Colmar,	0	275	Bul. de la Faculté, &c. vol. ii. p. 73.
1808	Do.	Clin. de Leige, . .	1	216	Do. do.
1825 1826	Dr. Merrem,	Cologne,	3	157	Bull. de la Faculté, &c. vol. xvii. p. 283.
1828	M. Papavoine,	St. Louis, Paris,	1	240	Jour. de la Progrés de Med. vol. xiv.
1829	Hotel Dieu, Paris,	2	280	Velpeau, l'Art d'Acc. p. 50.
1830 1831	M. Ciniselli,	Clin. de Pavia, .	2	94	Gaz. Med. de Paris, 1835.
			514	50,024	

* Merriman has given a different total amount of cases, for which I cannot account. I have thought it best to take the numbers from the original works.

DATE.	AUTHORS.	HOSPITAL, &c.	CASES OF VERSION	TOTAL NO. OF CASES.	QUOTED FROM.
1789 to 1792 and 1801 to 1806	M. Böer,*	Vienna,	51	6,666	Die Natürliche Geburtshülfe, &c. vol. i. pp. 72, 148, 237, vol. iii. pp. 62, 130, 245.
	M. Naegelé,	Heidelberg, . . .	22	1,411	Velpeau's Tab. View.
1801 to 1807	G. M. Richter,	Moscow,	25	2,571	} Synos. Prac. Med. } Obstetric. p. 416.
	Do.	Private practice, .	27	624	
1812 and 1813 from	E. Von Siebold,	Wurzburg Hospital.	6	310	Siebold's Journal, für die Geburtshülfe, &c. vol. i. pp. 114, 576.
1818 to 1829	Do.	Berlin Hospital, .	60	2055	Do. vol. iii. to x.
1819 to 1820	M. Ritgen,	Giessen,	1	180	Do. vol. vi. pp. 34, 262.
1814 to 1824	M. C. G. Carus,	Dresden,	29	2133	Do. vol. vi.
	M. Kilian,	Clin. de Prague, .	63	2250	Bull. de la Faculte, &c. vol. xxv. p. 352.
1824 to 1827	M. Kluge,	La Charité, Berlin,	19	1254	Siebold's Journal, vols. vi. vii.
1825	Prof. Andrée,	Breslau,	5	181	Do. vol. vi. p. 154.
1825 to 1828	Dr. Brunatti,	Dantzic	3	380	Do. vols. vii. ix.
1825 to 1826	Dr. Theys,	Trier,	1	49	Do. vols. vii. viii.
1826	Dr. Henne,	Konigsberg, . . .	2	156	Do. vol. viii. p. 121.
1826	Dr. Voigtel,	Magdeburg, . . .	1	29	Do. vol. viii. p. 831.
1827	Dr. Küstner,	Breslau,	6	176	Do. vol. ix. p. 92.
1829 to 1832	Dr. Adelman,	Fulda,	1	166	Do. vols. xi. xiv.
1830 to 1832	Dr. Siebold,	Marburg,	8	321	Do. vols. xi. xii. xiii.
1833 to 1835 and 1836	Do.	Gottingen, . . .	7	504	Do. vols. xv. xvi.
			347	21,415	

* I have taken these numbers from M. Boer's work, and am unable to reconcile them with those generally quoted.

Thus we see that the records of English practice yield 36,569 cases and 135 cases of version, or 1 in $267\frac{1}{2}$. French practice 50,024 cases and 514 cases of version, or 1 in $97\frac{1}{4}$. And German practice 21,415 cases and 347 cases of version, or 1 in $61\frac{1}{2}$. The whole number of cases is 107,978, and of version 996, or 1 in $111\frac{7}{9}\frac{5}{6}\frac{2}{6}$.

It is not so easy to make out a satisfactory table shewing the danger of the operation to the mother and child, from the want of details. Many writers do not mention whether any of the mothers died, and some omit the result as regards the child. I cannot forbear expressing my estimation of the minuteness and accuracy of Dr. Collins's statements, and the excellence of the tabular views he has given.

In the following table I have taken all the numbers upon which I could depend, and though the list is not extensive, I suspect that the average mortality will be found pretty correct.

AUTHORS.	NO. OF VERSION CASES.	MOTHERS LOST.	CHILDREN LOST.
Mad. LaChapelle,	155	0	45
Mad. Boivin,	218	0	48
Dr. Clarke,	48	6	35
Dr. Collins,	33	3	13
Dr. Cusack,	5	0	2
Mr. Gregory,	3	0	0
Dr. Beatty,	6	1	6
Dr. Churchill,	8	0	7
Professor Andrée,	5	0	3
Dr. Kluge,	7	1	3
Dr. Küstner,	6	0	2
Dr. Adelman,	1	0	0
Dr. Böer,	26	0	10

Thus, in 148 cases, where the result to the mothers is specially mentioned, eleven mothers died, or rather more than one in thirteen.

In 518 cases, where the result to the child is detailed, 174 children were lost, or rather more than one in three.

From the quotations and references I have made in the former part of this paper, it will be easily gathered that the *object* of the operation is threefold.

1. To place the head in a more favourable relation to the pelvis, or to substitute the head for some other presentation.

2. To substitute the inferior extremities for some other, less favorable presentation.

3. To hasten the termination of labour, in consequence of complications, as *convulsions*,^a *flooding*, *prolapse of the funis*,^b &c.

It has been proposed^c to turn and deliver instantly in case of the sudden death of the mother, instead of having recourse to the Cæsarean section; but the mortality amongst children so delivered (1 in 3) would preclude this application of it.

As it regards the complications in which this operation has been recommended, this is not the place to enter upon the consideration of them; I merely repeat what others have said or done, without at present questioning or affirming the propriety of such practice.

There is so much difference in the means by which the first and second objects are attained, that it is necessary to say a few words upon each.

1. *Version by the head* or *cephalic version* as it is termed, (*Velpeau*, &c.,) consists (a) in clearing the upper outlet of any part which may hinder the descent of the head; (b) in seizing the head and bringing it down to the brim of the pelvis; (c) or in rectifying the malpositions of the head.

As the majority of children enter the world head foremost, this mode was decided to be the standard of natural presentation at a very early period, and attempts were made to correct any deviations. Rhodion, Raynalde, &c., endeavour to change footling into head presentations, but not by internal manœuvre.

^a Gaffird's Cases, p. 114. Ramsbotham's Observations, vol. ii. p. 264.

^b Merriman's Synopsis, p. 100. Gooch's Lectures, p. 239. Conquest, Outlines, p. 143, &c. &c.

^c Siebold's Journal, für die Geburtshülfe, &c. vol. vi. p. 506.

After the discovery by Amb. Parè, Guillemeau, and others, of the ease with which labour could be terminated by bringing down the feet, cephalic version went very much out of fashion. By the great bulk of recent writers (especially in our own country) it is either not mentioned at all or with reprobation. Still there are cases in which its suitability could not be overlooked, and in consequence we find an admission here and there of its utility. Smellie recommends it in certain malpositions of the head, Mauriceau^a advises it if the neck present, and De la Motte^b and Roux^c speak of succeeding in this manner. Le Roi preferred it generally to version by the feet.^d

These, however, were only exceptions to the rule, it remained for Flamant,^e Professor at Strasburgh, to recal the attention of the profession to the operation in such a way as to procure its readmission (at least on the Continent) into the number of valuable obstetric operations. His example has been followed by several German and French writers. Labbe,^f Eckhardt, and Wigand^g published successful cases in 1803; Schnaubert in 1815; D'Outrepont and Regnaud in 1825. Busch^h gave an account in 1826 of fifteen cases, in which fourteen infants were born living. In 1827 Ritgen collected forty-five successful cases.ⁱ Riecke has had sixteen cases.^j It has been eulogized by MM. Vallée, de Roche, Ubersaal, (1823), Stolz,^k and Tous-saint.^l Jörg and some others advise the head to be seized and placed in position when nearest the neck, and Gardien^m seems inclined to recommend it strongly, "if only practitioners were

^a *Traité des Accouchemens*, p. 262.

^b *Traité Compl. des Accouchemens*, p. 435.

^c *Obs. sur les Portes*, p. 232.

^d *Pratique des Accouchemens*, 1777, p. 9.

^e *Journal Complement*, 1799, vol. xxvii. p. 263; vol. xxviii. p. 193; vol. xxx. p. 3, &c.

^f *Journal Complement*, 1803.

^g *Ib.* vol. xxx. p. 3.

^h *Ibid.*

ⁱ *Ib.* vol. xxx.

^j *Archiv. Gen. de Med.* vol. xxii.

^k *Journal Hebdom.*, 1831, vol. i. p. 5.

^l *Annal. de la Med. Phys.* vol. vii. p. 470.

^m *Traité d'Accouchemens*, vol. ii. p. 436.

as well versed in the use of the forceps as the Professor of Strasburgh." One of the few British writers who speak well of it is the distinguished Professor of Glasgow, Dr. Burns, who says :

"For instance, if the patient be known usually to have a short labour, if the pains be brisk, the os uteri dilated or in a relaxed and easily dilatable state, the liquor amnii retained and the head moveable, then the head may, without any difficulty or much irritation, be placed in the proper position, with a fair and reasonable chance of success."^a

I may also cite the testimony of Dr. Dewees, who acknowledges that "should nothing but the position of the head, with a slightly diminished capacity in the antero-posterior diameter, affect the labour, we may sometimes enable the woman to deliver herself, provided the waters have discharged themselves, by the aid of two or three fingers within the vagina and applied to the side of the head, so as to carry the vertex towards one of the acetabula ;"—"when thus placed we may commit the termination to the natural efforts, provided no other circumstance complicates the labour."^b

It is stated as *objections* to the employment of this kind of manipulation, that it is more difficult to catch firm hold of the head and to bring it to the upper outlet ; that if we succeed in bringing it to the brim we can do no more, but must then leave it to nature or use the forceps. To these and similar objections Velpeau^c has returned the following answer : "1st. It is not always very difficult to seize the head and to exert considerable force upon it. 2ndly. If the waters have not been long discharged, one may often without difficulty seize the vertex and bring it to the centre of the brim, however far it may have been distant. 3rdly. That in general it is better to force the head to descend by pushing up the presenting part, than by bringing

^a Midwifery, p. 418.

^b System of Midwifery, p. 293.

^c L'Art des Accouchemens, p. 390, Brussels Edit. I take this opportunity of acknowledging the aid I have derived in the composition of this Essay, from the researches of M. Velpeau.

down the head. 4thly. That delivering by the breech is far from being a simple and safe operation ; as regards the child it is less so than cephalic version, even if the forceps should afterwards be applied."

No one can for a moment deny that there is considerable weight in the objections I have named, but a more detailed investigation will shew that they are valid only against an indiscriminate employment of the operation, and not against its use in the cases to which it ought to be confined. These cases may be divided into two classes: 1, where the pelvis is of sufficient size, and nothing but the *malposition* of the child's head calls for interference; 2, in certain *malpresentations*, such as the neck or shoulder, and perhaps in a few arm cases, if the uterus be not strongly contracted, and especially if the waters have not escaped.

It is evidently not calculated for any case where immediate delivery is necessary.

Its *advantages* are found to be, 1st, a greater facility in reaching the head, for it is not proposed to be used in cases where the feet are near the os uteri; and 2ndly, a vast saving of infantile life. This operation will be no more fatal to the child than natural labour, if performed early, whereas it is said that one-fourth of all footling cases die,^a and we have seen that in version by the feet one in three die.^b

2. *Turning by the feet or podalic version.* (*Velpeau*).—This was known to the ancients,^c but confined by most of them to the case of dead children. To Ambrose Parè we are indebted for demonstrating its facility and comparative safety

^a See Boer, Stein, Osiander, Carus, Collins, &c. &c.

^b See page 379.

^c "We learn from *Ætius*, who lived probably about the fifth century, that *Philomenes*, whose writings (except those preserved by *Ætius*) are now lost, discovered a method of turning and delivering children by the feet in all unnatural presentations." Denman's Introduction, p. 345.

and for inculcating it in practice. His distinguished pupil, Guillemeau, followed in his footsteps, to be himself succeeded by others of brilliant talent and profound research, who cleared up the difficulties and settled the limits and laid down the rules for the operation. I have already referred specifically to most of them, and have quoted from so many of the earlier writers, that I shall now merely refer back the reader to the first part of this paper.

The peculiar *advantages* of version by the feet are—

1. That it gives to the operator the entire control over the whole process of the labour, that he can regulate its duration, either acting with, or independent of, the pains.

2. That though inferior in its results to labour with head presentation, it is about equal to any other and superior to some.

3. That in some cases it is the only chance of saving the child's life or of avoiding evisceration.

4. That in some cases it affords a probability of saving the mother's life when other means are hopeless, (*flooding, &c.*)

On the other hand its *disadvantages* are not to be overlooked, for—

1. From the distance the hand has to traverse,—the difficulty of seizing the feet and of turning the child in utero, there must ever be a fearful chance of injury to the mother.

2. The mortality amongst the infants thus brought into the world is very great; as far as our statistics extend, they yield 174 out of 518 delivered or about 1 in 3.

From all we have said it will not be difficult to specify the *cases to which the operation is applicable*.

1. It may be used in all cases of *malpresentation*, whether of the superior extremities or trunk.

2. If upon the introduction of the hand, it be found impossible to rectify the *malposition* of the head, we are advised to seek for the feet and bring them down.

3. In all cases of placenta prævia, many cases of ruptured

uterus, convulsions, prolapsed funis, &c. the operation is available and has been used with great success.

It is right to mention that Denman and some other writers recommend turning when the pelvis is slightly too narrow for the child's head, but I must confess that this practice appears to me more than questionable.

The next point for our investigation is the *period most suitable* for making the attempt, so as not to interfere rashly on the one hand, nor to delay too long on the other, "*neque temerè nec timidè*——." Of the two errors it is hardly too much to say, that excessive delay is the most serious.

1. If the case be one requiring *cephalic* version for the rectification of a *malposition*, it is clear that the operation can only be safely, if at all, performed before the uterine efforts have wedged the head into the upper strait; the attempt should be made so soon as it is evident that the natural powers will not rectify the malposition. It will be an additional motive for *prompt* assistance, if we find the pains violent, and that the patient have had many children, lest the head, not being able to enter the brim, should be turned aside, and forced through the uterine or vaginal parietes.

2. (a) If we are called to an arm presentation or any demanding *podalic* version, before the escape of the liquor amnii, and we find the *os uteri* hard and undilatable, it will be advisable to wait until some change takes place, before we introduce the hand: neither is there any risk worth mentioning, provided we remain with the patient to operate if the waters break.—(Baudelocque, Hunter, &c.)

(b) If we see the patient before the rupture of the membranes, and find the *os uteri* soft and dilated or dilatable, there is no reason for deferring the attempt, if the case require this kind of interference, and great advantage in operating whilst the uterus is distended. "If we take it when the *os uteri* will admit the finger and knuckles, it is the better time, because we then turn the child as if in a bucket of water; and this gives us

so clear an advantage that it needs no explanation.”—(Clarke,^a Foster,^b Gooch,^c Ashwell,^d Ramsbotham.^e)

(c) If the os uteri be dilatable, the sooner the attempt is made after the escape of the waters the better. Gardien^f says that the most favourable moment is just when the waters break.

(d) After the escape of the waters, we sometimes find the os uteri neither rigid nor much dilated, and the pains moderate. In such cases, no time should be lost: the hand should be introduced into the vagina, and gentle yet firm and persevering efforts made, to pass the hand into the uterus. Dr. Blundell says^g—“In ordinary cases, if the mouth of the womb be as broad as a crown piece, and if the softer parts be relaxed thoroughly, the introduction of the hand is not exposed to greater risk than usual; there seems to be no circumstances preclusive of the operation, and the sooner you commence the better.”

(e) So far, although the cases I have noticed have increased in difficulty, yet in none of them has any very great difficulty, either of decision or of execution, been experienced. We are, however, often called to a class of cases where our utmost judgment, patience, and skill will be needed. I refer to those cases of arm presentation, where, in the language of Foster, “the membranes have been a long time ruptured, the waters totally evacuated, and the womb closely contracted around the foetus, which is then thrust considerably into the pelvis, the parts of the woman being dry, hot, tender, and often in a state of inflammation and tumefaction, especially when unskilful endeavours have been used either to extract or turn the foetus, or to dilate the parts.”^h

^a London Practice of Midwifery, p. 245.

^b Principles and Practice of Midwifery, p. 196.

^c Lectures, p. 233.

^d On Parturition, p. 355.

^e Observations, vol. ii. p. 48.

^f Traité d'Accouchemens, vol. ii. p. 439.

^g Principles and Practice of Obstetrics, p. 391.

^h Principles and Practice of Midwifery, p. 196.

In such a case, to force the hand through the os uteri would be to rupture that organ, and cause the death of the woman. It is admitted by all authors, I believe, that the operation must be postponed for a time, and means tried to soften the uterus and suspend its contractions. For this purpose, all are agreed in the propriety of taking away sixteen or eighteen ounces of blood from the arm, and following up this with a large dose (gtt. lxxx. to gtt. c.) of laudanum.—(Denman, Merriman,^a Hamilton, jun., Ashwell,^b Burns,^c Blundell.^d) Dr. Collins^e has proposed another remedy of great value. He says—“In such a situation, where the individual is strong and plethoric, twelve or fourteen ounces of blood should be taken from the arm, and a table-spoonful of the following mixture given every half hour, which I have found exceedingly useful both in quieting uterine action and inducing relaxation :

℞. Aquæ Fontis, ℥ vi.
Antim. Tartar. gr. iv.
Aceti opii, gtt. xxx. M.”

By these means, after the lapse of a short time, we shall find the uterus relaxed, and the os uteri soften, so that with a little patience, and gentleness, and time, we may attain our object.

3. When the case is one of placenta prævia, or even of accidental hæmorrhage, (if it demand delivery,) it is a general rule to operate as soon as possible. The os uteri seldom offers any resistance, owing to the loss of blood, and as this loss is necessarily increased by the natural efforts in unavoidable flooding, it is evident that the earlier we deliver the better for the patient.

If we decide upon trying this operation in convulsions, prolapsed funis, or ruptured uterus, it will be wise to attempt it as soon as the state of the os uteri will permit.

^a Synopsis, p. 89.

^c Midwifery, p. 420.

^e Practical Treatise, p. 67.

^b On Parturition, p. 356.

^d Obstetricy, p. 397.

Method of operating.—This operation is usually divided into three stages; the introduction, the turning, and the extraction. I shall shortly describe these in each kind of version.

1. *Cephalic version.*—The rectum and bladder having been previously emptied, the patient is to be placed in the posture most convenient to the operator; some recommend that she should lie on her back, (Chapman, Dawkes, Smellie, Dewees,) others that she should kneel (F. Ould) or lie on her left side, as in ordinary labour. The latter position is generally adopted in this country. Whichever hand we choose to operate with, is to be well oiled or soaped, and then insinuated through the os externum edgeways. Great gentleness will be necessary, and contrary to the advice of some, it would seem better to do this during an interval of pain. When the hand is nearly all in the vagina, it will be necessary to change its direction, from that of the axis of the lower outlet to that of the upper outlet. This will avoid all injury to the vagina, and will bring the points of the fingers to about the situation of the os uteri. Through the os uteri (and membranes if entire) the hand is to be insinuated very gradually, in a conical form and during the interval of the pains, holding still but not losing ground when the pain comes on. When the hand is in the womb, if our object be to rectify the position of the head, it should be seized, and placed in one of the oblique diameters of the brim, with the posterior fontanelle corresponding to one of the acetabula, i. e. in the first or second position. If our object be to change the presentation, for example, to substitute the head for a shoulder, we must gently push up the shoulder, and then seizing the head bring it down to the brim and place it in the most favourable relation to the pelvis.

Having now done all that we can by the hand alone, it may be withdrawn, and the further progress of the labour left to the efforts of nature; should these be found inadequate, recourse must be had to the forceps.

This is the ordinary method of placing the head in position

for descending, but Wigand has stated that it is possible, before the waters have escaped, to change the position of the head, or even the presentation, by external abdominal manipulations. Velpeau confirms this from his own experience, and something similar is stated by Sennert^a and Martins.^b Riecke has also related several such cases. Dr. Burns,^c in a note to his ninth edition, states, that "Mr. Buchanan, of Hull, informs me that he succeeded, in one instance lately, 'where the left side of the breast of the foetus lay diagonally over the pelvis with the head forward,' in bringing the head right, by making the patient kneel and raise the breech, whilst the shoulders were brought as low as possible. The water had not been discharged. The situation of the head, when it came down, was made more favourable by the finger. The child was alive."

2. *Podalic version*.—I shall not repeat what I have said as to the mode of introducing the hand through the os externum and os uteri. The hand and arm will be our guide, for it is better not to attempt to put it back, much less to separate it "after the manner of the ancients." "In no case is it necessary or in any wise serviceable to separate the arm of the child previous to the introduction of the hand of the operator. In some cases to which I have been called, in which the arm had been separated at the shoulder, I have found greater inconvenience, there being much difficulty in distinguishing between the lacerated skin of the child and the parts appertaining to the mother. The presenting arm is never an impediment of any consequence in the operation, and therefore, in my opinion, ought not to be regarded, or on any account removed."^d Arrived at this point, an examination should be made as to the position of the child's body; having ascertained all about this, the hand is to be passed over the *front* (chest and belly) of the child, as it is generally in front that we meet with the

^a Deventer, p. 272.

^b Arch. Gen. de Med. vol. xxii. p. 385.

^c Midwifery, p. 417.

^d Denman's Introduction to Midwifery, p. 352.

feet. It is often a matter of difficulty to reach them, as well from the distance to be traversed, as from the contraction of the uterus. The caution of Velpeau is of great value :

“ Je dois aussi prevenir les jeunes praticiens, que, pour arriver au fond de l'uterus, il faut porter l'avant bras beaucoup plus profondement qu'on ne le croirait au premier abord, et que, pour se mettre en rapport avec l'axe du detroit superieur, la main a besoin d'etre bien plus fortement inclinée en avant, qu'on ne pourrait se l'imaginer d'après l'examen d'un bassin sec.”^a

This part of the operation should be slowly and gently performed resting occasionally, and keeping the hand quite still and flat upon the body of the child during a pain, so as to avoid both injury to the mother and great pain to ourselves from the violence of the uterine contractions.

Having found one or both inferior extremities, “ before we begin to extract we must examine the limbs we hold, and be assured that we do not mistake a hand for a foot. The feet being held firmly in the hand, must then be brought with a waving motion slowly into the pelvis. While we are withdrawing the hand, the waters of the ovum flow away, and the uterus being emptied by the evacuation of these, and the extraction of the inferior extremities, we must wait till it has contracted, and on the accession of a pain the feet must be brought lower till they are at length cleared through the os externum.”^b

The *turning* of the child is accomplished during a interval of pain, the feet being brought over the front of the child, and not over the back, which would risk dislocation of the spine (Deweese,^c Conquest^d, Gooch,^e) as the feet are drawn down the hand will ascend.

The extraction of the child is to be accomplished gradually during a pain, and in drawing downwards we should be careful not to place the foetus in a wrong position as to the pelvis (Vel-

^a L'Art des Accouchemens, p. 395., Ed. de Bruxelles.

^b Denman's Midwifery, p. 347.

^c Compendious System, p. 286.

^d Midwifery, p. 146.

^e Lectures, p. 235.

peau.)^a Some advise us to leave the labour to nature after turning the child, but to this Dewees objects. He says: "The whole act of turning should be considered as one of necessity rather than of choice; therefore where it is proper to commence with it, it is we believe always proper to finish with it, and not trust the delivery to the powers of nature, after having brought the feet into the vagina, as recommended by some."^b

As the case is now to be managed precisely as a footling case, I shall not detain the reader upon the particulars which may be found in all the systems of midwifery. I shall merely supply an omission by adding, that in cases of placenta prævia, when the hand arrives at the os uteri, we have the choice of penetrating directly through the placenta, or passing the hand on one side between it and the cervix uteri.

Throughout the operation I have spoken of bringing down *the feet*, it is now right that I should mention some modifications of this plan.

Peu, Burton, and Wm. Hunter recommended that the hips should be seized and brought to the brim of the pelvis. The latter says, in his MS. lectures, speaking of arm presentations: "In this case you are to introduce the hand into the uterus, and gently put up the arm, and turn the child to a breech presentation. Reduce it if possible to a *perfect breech case*, that it may come more gradually on account of the head and the naval string, lest you strangle the child. If, however, you find this impracticable, let it come footling, but sustain the child at the hips as long as you can, they being, next the head, the largest and most unyielding part."^c In Germany it has been advocated by Schweighaeuser, Schmidt, and Betschler.—(Kilian.) This plan, however, is seldom or never tried. The breech would be more difficult to hold and bring down than the head, and we should (as in cephalic version) lose all control over it after placing it in position.—(Kilian.)

^a De l'Art d'Accouchemens, p. 396. ^b Compendious System, p. 286.

^c Merriman's Synopsis, p. 83, note. Kilian die Operative Geburtshülfe, v. i. p. 442.

Again, it has been strongly advised to hook down the knees, instead of seizing the feet, by Burton, Delpech,^a and Dr. Breen (of this city.) In this recommendation, Dr. Burns seems to coincide. I shall quote Dr. Breen's own statement of its advantages:

"By this proceeding (hooking the finger in the flexure of the knee) the child would be made to revolve on the lesser axis of the trunk, and the foot would be brought into the vagina within the reach of a noose. By adopting a different procedure, and endeavouring to lay hold of a foot according to the usual directions, it is obvious that the hand of the operator must traverse a greater space of the uterus, a matter of very considerable difficulty, either when the action of that viscus is strong, or when it is closely contracted on the body of the child. This difficulty being surmounted, when the foot is laid hold on, it is very apt to slip and recede from the grasp, as well from the violence of uterine action as from the hand being cramped and nearly powerless by reason of the previous exertion. By adhering to the direction of hooking the knee, the hand of the operator is in a great measure protected during the pains, and he is enabled deliberately to proportion the force requisite to change the position to the resistance he encounters. Besides, as the knees must have been nearly in contact with the superior part of the abdomen from the earliest development of the superior extremities of the embryo, should, what may be called accidental circumstances have removed them from this natural and usual position, but little force will be requisite to restore them to it."^b

Of course, should a foot be nearer the os uteri than a knee, Dr. Breen would advise its being seized.

These reasons certainly appear of sufficient weight to justify the admission of Dr. Breen's suggestion as an improvement upon the previous mode of turning.

Lastly. As it is not always easy to seize both feet, we are

^a Mal. Rep. Chirurg. vol. ii. p. 345, 341.

^b Edinburgh Med. and Surg. Journal, vol. xiv. p. 29.

told by many writers not to be solicitous about the second, but to extract by one alone.—(Portal,^a Puzos,^b Giffard, Delavrye,^c Wigand, Carus, Siebold, Kilian.^d) The reason given is simply to avoid pain to the mother, and to save the difficulty and trouble of seeking for a second. A similar recommendation has been given by my intelligent friend Mr. Radford, of Manchester,^e but for very different, and as far as my experience goes, for very valid reasons:

“The results of practice,” he says, “prove, what might be inferred by reasoning, that the *child's life is much more frequently preserved in those cases in which it presents the breech, than where the feet come down first.*” “Is there then no practice which would enable us to bring down a part, approximating in its measurements to those of the breech presentation, which we have already stated to be so safe to the child, but which cannot be effected in turning operations? There is,—and this practice consists in NEVER *bringing down more than ONE FOOT* in the manual operation of turning a child.” The following measurements were obtained from children born at the full period of utero-gestation:

The circumference of that portion of the head

which presents in labour, is from . . . 12 to 13½ inches.

Do. of the breech, with the thighs flexed upon the abdomen, as in breech presentations,

from 12 to 13½ do.

Do. of the breech, *with one thigh turned upwards towards the abdomen, the other*

extended, from 11 to 12½ do.

Do. of the hips, the legs extended as in feet

presentation, from 10 to 11½ do.

^a *Pratique des Accouchemens*, p. 31.

^b *Traité des Accouchemens*, pp. 169, 170. ^c *Ibid.* p. 224.

^d *Die Operative Geburtshülfe*, vol. i. pp. 401-2.

^e *Edinburgh Med. and Surg. Journal*, April, 1832, p. 260, or *Essays*, pp. 14, 15, 16.

It is evident from these measurements, that it will be safer for the child to bring down only one foot, for inasmuch as the breech with the thigh turned up is more bulky than the hip with the legs extended, by so much will the passage be better prepared to admit the quick transit of the child's head, upon which the safety of the infant depends.

From what has been stated, it will appear that the *difficulties* of the operation are almost entirely owing to the uterus being in action. When it is quiescent, or nearly so, the operation is easy ; but when the contractions are violent, it is often tedious, difficult, and very painful, both for the patient and operator. These contractions equally impede the introduction of the hand, the finding of the feet, and the turning of the child. Once so much is accomplished, they become of valuable assistance in completing the delivery.

The *danger* to the mother may arise—1. From the operator not changing the direction of his hand, in accordance with the pelvic axes, and consequently pushing his fingers through the vagina.

2. The hand may be forced through the walls of the uterus, if too much force be used in searching for the feet.

3. The uterus may bruise itself against the hand or the limbs of the foetus when making the turn.—(Velpéau.)^a

4. Without any evident injury, the irritation of the operation may give rise to subsequent inflammation.^b

5. The shock may be serious or even fatal.

^a De l'Art Accouchemens, p. 394.

^b Lest I should be supposed to have overdrawn this melancholy picture, I will quote the testimony of Dr. Blundell :

"The grand error to which you are obnoxious, is the one of too much force, *arte non vi*. Contusions, inflammations, lacerations, fractures, decapitations; these are the tremendous consequences resulting from this error; consequences at once fatal to the mother and child. Laceration of the womb, laceration of the vagina, extensive laceration of the perineum, one or other of these will certainly occur, if you operate rudely, and now and then perhaps when turning is performed with the nicest care. Those make a mock of turning, who have never seen its dangers; it is, at best, a fearful operation."—Blundell, Principles and Practice of Obstetricy, p. 398.

The simple enumeration of these dangers ought, one would think, to go far towards obviating most of them.

The dangers to the child consist—1. *In compression of the funis*, which commences about the time the buttocks appear at the os externum.—(Ould,^a Dewees,^b Michaelis,^c Ritgen.^d)—After this time, if there be much delay, the child will perish from the interrupted circulation, unless by chance the cord should have lodged in the angle at the junction of the sacrum and ileum. To obviate this danger, it was proposed by Pugh^e to introduce a pipe into the child's mouth, and excite respiration, whilst the head was as yet in the vagina. Bigelow^f and Baudelocque^g are said to have tried this in practice.

2. If much extracting force be used, the spine may be dislocated; the hips also; and the leg has been pulled off.

3. Compression of the head is enumerated by Dewees^h as one of the dangers to which the foetus is exposed.

It only remains now for me to say a word as to the after treatment. The patient will probably need an anodyne after the operation, and it is good practice to join a few grains of calomel with the opium or Dover's powder. It will be necessary to exert great watchfulness to detect the first inroads of inflammatory action, which must be met by antiphlogistics, according to the strength of the patient and the violence of the attack.

Careful inquiry should be made as to the character of the lochial discharge each day, and if necessary the vagina may be syringed with warm water.

The most absolute quiet and rest is desirable. If the infant be alive, the mother should not be teased with it for some hours.

^a System of Midwifery, p. 104.

^b Compendious System, &c. p. 290.

^c See his Treatise on Version.

^d Anzeigen der Mechanischen Hülften, 1820.

^e Treatise of Midwifery, 1754.

^f Journal de Progres, &c. 2nd Series, vol. i. 1829.

^g Revue Medicale, 1831, vol. iv. p. 505.

^h Compendious System, &c. p. 290.

ART. XI.—*Observations on the Treatment of Delirium Tremens, without Opium.* By T. CAHILL, M.D.

MANY years since, when a student, having witnessed some very sudden deaths in delirium tremens, treated with opium, I often questioned the propriety of that practice, indiscriminately applied. More recent instances of fatality in the same disease, treated in a similar manner, served to confirm my doubts on the subject. Yet, when I came to treat the disease myself, I was obliged to pursue the routine until forced by circumstances to try other means, the utility of which experience, in my opinion, has confirmed. Having satisfied my own mind of the safety and certainty of a less heroic practice, I am anxious to lay before the profession the mode of treatment I have been led to adopt, and the facts on which that treatment has been founded, in order that those who have more ample opportunities of observing, and much greater knowledge in treating, disease than I can presume to, may put its efficacy to the test.

CASE I.—When in Newry, as *locum tenens* of Doctor Fitzpatrick, I was called to see Mr. J. T., an innkeeper of that town, about 65 years old, of a broken constitution, with an intermitting pulse. I saw him for the first time on the 19th of January, 1835; he had taken a draught containing one grain of acetate of morphia, on the previous evening, which threw him into a lethargic sleep, with stertorous breathing, from which he awoke more excited than before. Ordered 3 vi. castor oil; the douche to be applied as often as possible to his head.

20th. *Morning.* Bowels freed by the oil; delirium as yesterday. His bed-room being next to a large dining-room, seldom used and consequently cold, I allowed him to walk through it in his night dress (under surveillance) whenever he became warm and excited.

Evening. Much cooler and easier; the walk through the large room always produced calmness and quiet.

21st. Bowels again constipated. Castor oil to be repeated.

Whenever excitement increases, the douche to be used to his head, and to be permitted to walk about the large room.

22nd. The oil has had effect ; no sleep. Having heard that his son had shot a hare, wished to get some soup made of it without the knowledge of his son, (an idea that his family had conspired to poison him having been a prominent characteristic of his delirium,) I ordered him to be allowed to take the soup as if it were given without my knowledge or that of his family.

Evening. Has taken the soup, and is now asleep.

23rd. Quite rational, but complains much of weakness ; has slept a great deal during the night. No relapse.

CASE II.—March 24th, 1835. Called to see Mr. M., his usual medical attendant having been obliged to attend the assizes of Downpatrick ; found him in a state of high delirium, and exhibiting symptoms of gastritis ; incessant vomiting, thirst, and pain on the slightest pressure over the region of the stomach. Ordered twenty leeches to the epigastrium, a blister to be applied when the bleeding ceases ; purgative enemata, and cold drink, a small quantity at a time.

25th. The gastric symptoms abated ; delirium nearly as before ; his friends expressing very great anxiety to have him able to resume his duties as soon as possible, I ordered an eight ounce mixture, containing $\mathfrak{z}\text{i}$. of acet. opii, one table-spoonful to be taken every second hour, the quantity to be increased, and the interval diminished, as might appear necessary. $\mathfrak{z}\text{x}$. of acet. opii were taken before it produced sleep, and I was frequently about to give it up from the very violent excitement, and slight contraction of the pupils produced by it, but I had not sufficient experience of, and of course little confidence in, the palliative plan pursued in the first case, I therefore persevered, and ultimately sleep followed.

26th. He is quite collected, but weak ; the gastritis has returned with more than its former intensity, even cold drinks give pain, and solids cannot be endured. Ordered the dressing

for the blister to be mixed with pulv. cantharid. Cold drinks, and a saline mixture with lemon juice.

Evening. Rational, complains very much of thirst, heat at the pit of his stomach and vomiting.

27th. Early this morning received a note from my patient, stating that he wished to see me as soon as possible, that he had no sleep during the night, every thing in the room appeared moving, was certain he was about to have another attack of delirium, and that he felt a great desire to cut his throat to avert the agony he was likely to endure. I hastened to him immediately, and found him in that state of depression which usually precedes an attack of delirium tremens. I was much puzzled how to act; I dreaded giving more opium from the violence so shortly before induced by it, the state of the gastric mucous membrane, and fear of apoplexy. I applied the douche to his head for some minutes, and having in some degree subdued the nervous excitement, I determined on trying the effects of exposure to the open air. I had him dressed and well muffled, then got him on a car, and rode to Rosstrevor, (seven miles from Newry,) where we rested a short time, and returned home.

Evening. He felt a good deal fatigued after the drive; went to bed, and after a short time fell into a deep sleep.

28th. Quite calm and collected; complains only of the gastric affection. Ordered the counter-irritation to be kept up; cold drink, and a small quantity of light food. In a few days he was able to attend to his avocations, but did not get rid of the gastric affection for some time.

CASE III.—I was called in to see Mr. M'G., house-carpenter, on the 15th May, 1835. He had been ill for some days; found him in a strait waistcoat, and a blister to his head. Ordered him to be released from restraint, and the blister to be removed. The excitement produced by the blister, and his efforts to get free, were so excessive, that he was literally bathed in perspiration. I had the bedding, bed-clothes, and linen changed, which lessened the excitement considerably. His

bowels not having been moved for some time, (having refused to take any thing from an idea that poison was intended to be administered to him,) I gave him some castor oil, and ordered broth to be given, as drink, after it.

Evening. His bowels have been acted on by the oil, but he could not be persuaded to take any of the broth. The douche to be applied to his head.

16th. Easier and cooler ; still delirious ; appears to be very weak ; gave him some porter, (as he took any thing I desired since I freed him from restraint.) Ordered him to have some beef tea, and the nurse to be changed, (as he had taken an aversion to the persons about him in the commencement of his illness.)

Evening. Better ; has taken some beef tea ; gave him more porter.

17th. Quite rational, but weak ; had fallen asleep shortly after I left him last night, and awoke in the morning quite well. No relapse.

CASE IV.—Mr. Q—n, a strong, plethoric man, about thirty-five years old, had been ill some days before I saw him, 4th December, 1835. Found him in a state of nervous excitement and delirium, the stomach very much deranged, constant vomiting and thirst. Ordered twenty leeches to the epigastrium, (having previously applied the douche to his head for some time, which lessened the nervousness considerably ;) cold drink and purgative enemata.

5th. *Morning.* The gastric affection greatly relieved, the delirium not so violent. To have a dose of castor oil, as the enemata had very little effect.

Evening. Bowels acted on by the oil, cooler and easier, but incoherent ; his family having expressed great anxiety to have him over the attack as soon as possible, I determined on trying opium and to watch its effects myself. I ordered a mixture containing ℥i. of acet. opii to ℥viij. a table spoonful to be given every second hour ; two or three doses of the medicine

had the effect of quieting him, but a continuation acted differently ; he became more excited, restless, and warm ; at length the pupils became slightly contracted, and the violence so uncontrollable, that I desisted from its use.

6th. *Morning*. The gastric affection has returned, and the delirium is violent. Ordered a repetition of the leeches to the epigastrium ; the douche to be applied to the head very frequently.

Evening. Is something easier. Ordered the purgative enemata, and if they should not have sufficient effect, the castor oil draught to be repeated.

7th. *Morning*. Had been obliged to take the oil, which operated ; no sleep. Ordered a car to be procured, and having used the douche to his head for some minutes, in order to produce comparative calmness, took him out to drive ; when we were on our return, about three miles from home, he came off the car to get a drink of water ; I directed the driver to proceed home, and leave us to walk. On our return he felt very much fatigued, but quite calm ; and feeling hungry I allowed him to have a little beef steak and some porter after it.

Evening. Having felt very much fatigued he retired to bed, and shortly after I left him, fell into a sound sleep.

8th. Has slept the greater part of the night, and is now quite rational. No relapse.

CASE V. — Byrne, commercial clerk, thirty years of age, good constitution, was ill for two or three days, August 3rd, 1835. Ordered a bolus of jalap and calomel ; the douche to be applied to his head, whenever he became warm and excited.

4th. *Morning*. Bolus has had effect. To be allowed to walk about the bed room in his night dress, (under surveillance,) and the douche to his head very frequently.

Evening. His friends being very anxious to have him well as soon as possible, lest the nature of his complaint should transpire, and his employers dismiss him, if aware of its cause, ordered an eight ounce mixture with ʒi. of acet. opii, a table

spoonful every second hour, no gastric or cerebral symptoms being present to contraindicate its use; after a few doses he became more excited and restless; ordered the douche to his head at short intervals, and the mixture to be continued.

5th. Found him quite cool and rational; he had fallen asleep before the mixture was used. I allowed him to dress and walk about the house; an aperient of castor oil, to have some soup after the medicine operates.

6th. Quite well, except some slight gastric affection, which did not detain him from his employment.

CASE VI. — McConville, corn chandler, has been ill some time; his mind was first depressed by pecuniary losses, and the unhappily too common practice of drowning sorrow in inebriety brought on delirium tremens. The disease appears more like mania, scarcely any tremulousness of tongue or hand, moody, stubborn, and silent, the pulse full and resisting. Ordered venesection to twelve ounces, purgative bolus of calomel, jalap and croton oil, (his bowels having been for some time in a very constipated state;) obliged to have a clergyman, who had great control over him, present, to induce him to submit to treatment.

22nd. The bolus had a very good effect; much the same in other respects. Ordered his head to be shaved, and the douche to be applied to it very frequently; the bleeding to be repeated.

23rd. The true character of delirium tremens much more apparent, fear being the most prominent characteristic of the delirium, with trembling of hand and tongue. Ordered the purgative to be repeated without the croton oil; the douche to be used to his head as often as possible, and no force to be had recourse to in restraining him.

24th. Cooler and easier, but still delirious; pulse compressible; complains of weakness. Ordered a small quantity of steak or chop, a glass of porter after it.

25th. Much better in every respect, had slept two or three

hours during the night, and appears greatly refreshed. Ordered ʒi. of castor oil, broth to be given, as drink, after it; a walk in the open air as soon as the medicine should have a proper effect.

26th. Has slept well through the night, and is now quite rational. No relapse.

CASE VII.—Mr. Q., baker and grocer, about fifty-five years old, thin and spare, for many years affected with chronic gastritis, (thirst and diarrhoea being constantly present,) went to England with a friend, in the hope that a journey might benefit his health. When in Manchester anxiety of mind, and some slight irregularity of living, brought on an attack of delirium tremens; he left his friend abruptly, and returned to Newry by Liverpool and Dublin; he never slept or ate during the journey home, and vomited every liquid he attempted to drink.

March 19, 1836. When I saw him, immediately after his return, he was very much exhausted and delirious; incessant vomiting. Ordered eight leeches to the epigastrium and purgative enemata, the accustomed diarrhoea having ceased some days.

20th. Vomiting less frequent, cooler and calmer, but weak. Ordered a blister to the epigastrium, the douche to be applied to the head.

Evening. Vomiting has ceased, complains of weakness. Gave him a little wine and water, with directions to repeat it every third hour; the douche to be applied to his head, and liberty to walk through his bed room undressed, if he became warm and excited.

21st. Appears to be stronger, and has dozed a little, but no sound sleep; bowels confined. Ordered ʒvi. of ol. ricini, to have broth after it, as drink.

Evening. Castor oil has had effect; cool and weak. To have wine and water; the douche to be applied to his head whenever he becomes warm and excited.

21st. Has had three hours sleep during the night; is much

better, talks of his business and the voyage a little incoherently. Allowed him to put on his clothes and walk in his garden; to have a chop for dinner, and wine and water after it.

22nd. Quite coherent and rational; has slept well. No relapse.

General Remarks.—In the first case above mentioned, that of J. T., opium gave rise to very alarming symptoms, and the patient was afterwards cured without it, not only in that particular instance, but in two subsequent attacks. I take no merit to myself for having anticipated the salutary effects of the soup in that case; I merely gave it for the purpose of supporting strength, and the sleep brought on by it was totally unlooked for and unexpected by me. Subsequent experience proved that when the more violent symptoms had been abated and the complications removed, the stimulus of nourishment *alone* was sufficient to allay nervous excitement; and although a little more time might be necessary, the safety of the practice, and the entire exemption of the patient from any visceral affection, such as generally follows the exhibition of large doses of opium, more than compensated for the additional time and trouble.

In the second case opium certainly did induce sleep, but not until pushed very far, after having given rise to some very alarming symptoms, and caused a return of the gastritis; moreover a relapse occurred within thirty-six hours after its use, and what bears more directly on the point, the same individual has since very suddenly died in an attack of this disease treated with opium, having all the symptoms (as far as I could judge from report) of an acute gastritis.

In the third case opium caused such increase of violence, that a strait waiscoat was considered necessary by his medical attendant.

In the fourth case I tried opium, not only without any good effect having resulted, but on the contrary the gastritic affection was aggravated, the excitement increased; and the disease was effectually cured by the cold dash to the head, exercise in the

open air, and the stimulus of food. The same person had a return of the complaint, which yielded to the same line of treatment.

In the fifth case, there being no complication, I tried the opium *after a purgative*, with most *decided* benefit; but it was the most favourable case for that practice I ever saw, the constitution good, the habit of body spare, and all the organs untouched by any previous disease; besides the character of the individual, and of course his livelihood, were at stake.

The sixth case (M^cC.) was, in my opinion, complicated with congestion of the brain or its membranes, and the opium treatment, I need not say, would have been highly injurious in it.

The seventh case (P. Q.) was an instance of the greatest amount of visceral disease I ever witnessed. The stomach, liver, the small and large intestines, were all engaged. The individual had more the appearance of an old East Indian than an inhabitant of our climate; he was moreover subject to pain in the head, accompanied with vertigo and stupor. I need scarcely remark that in such a case opium would have been more than hazardous.

From the foregoing statements, it will be seen that opium is not beneficial in many cases; in others, that it is positively injurious; and that in all a cure can be effected without its assistance. I myself knew four very sudden and unexpected deaths to have occurred in delirium tremens, treated with opium, in a small country town, within a short period of time, and in individuals in the very prime of life.

I must remark that I look upon personal restraint as a most injudicious practice, and one that should never be had recourse to, *under any circumstances*. I have seen immediate death occur in one instance, and in many others the violence and excitement increased an hundredfold. The persons in charge of the patient should be strangers; as he will submit to such without murmur, while no violence will induce him to do so to a friend or acquaintance. The douche or cold dash to the head,

and walking about a cold room, (the cold air bath of Franklin,) have the most beneficial effects in lowering violence and excitement, and restoring comparative calmness and reason. The douche should be applied by pouring a continuous stream of water from a height of four or five feet on the patient's head, who should be placed on his knees over a tub or other vessel to receive the water. I have frequently seen the most violent excitement subdued, for a time, by it, and the individual return to bed quite cool and rational. There seems also to be a complete exemption from the effects of cold in this disease, as I never knew any bad effects to have arisen from exposure to cold air or wet, even during very heavy perspirations, in persons who at other times were highly susceptible of bronchitic attacks from slight changes of temperature. In cases of *habitual drunkards*, it is necessary to give their accustomed stimulus, to prevent sinking ; but this may be pushed too far, and then the same results will follow as from *excessive* doses of opium. It should be remembered that the *perfect* recovery of the patient, and his exemption from sequelæ, are in an inverse ratio to the quantity of stimulants administered.

ART. XII.—*Cases of Varus and Pes Equinus successfully treated, by the Method of Stromeyer.* By MICHAEL HARRY STAPLETON, M. B. T. C. D., one of the Surgeons to the Jervis-street Hospital, Dublin.

As it happens that I have been the first surgeon in this country who has performed the operation originally employed by Stromeyer, an operation which in my hands has proved completely successful, I should be wanting in gratitude to that distinguished foreigner, as well as unmindful of the interests of science, if I did not report the three cases in which I employed the operation. They are as follow :

CASE I.—*Congenital Varus in an Infant. Failure of various Attempts to remove the Deformity. Operation of Stromeyer. Perfect Cure in a Month.*

—— May, æt. 18 months, affected from birth with varus, having the heel raised nearly an inch from the ground, and a small bursa on the cuboid bone, was brought to me for advice on the 13th of October, 1838. His mother stated that her husband had been also, from his birth, affected with a similar deformity. She said, that various instruments had been employed for more than a year without effect.

October 16th, 1838, I divided the tendo Achillis, in the Operation Theatre of Jervis-street Hospital, in the manner recommended by Stromeyer. Scarcely more than a drop of blood was lost; and bandages were so applied as to approximate the ends of the divided tendon. On examining the limb, on the second day after the operation, the wound was found perfectly united, but somewhat ecchymosed. On the tenth day, the slight ecchymosis had almost entirely disappeared, and a thickening, somewhat like a provisional callus, about half an inch in length, might be felt uniting and surrounding the divided ends of the tendon. The boards of Stromeyer were now applied, and, in a month from this time, the foot was perfectly flat upon the ground. The use of the instrument was continued for two weeks longer, and a leather boot, such as is generally worn by children, was then applied. A month after this, the child was exhibited to the class, and walked so perfectly well, that it was impossible to tell which was the affected limb.

The only difficulty experienced in this case, was from the swelling of the foot, which was easily overcome by the application of a bandage.

CASE II.—*Pes Equinus continuing for nine Years. Great Deformity of the Foot. Division of the Tendo Achillis. Recovery.*

Elizabeth Lawless, æt. 16 years, has been afflicted with a pes equinus since the age of 7 years; at which time she suf-

ferred from a severe attack of small-pox. She states, that before that period, the affected limb was weaker, and more wasted and deformed, than the opposite, and that, whilst recovering from the small-pox, which confined her to bed for a long period, she was attacked with a severe pain in the right thigh, which occasioned her to lie upon her back, with the right lower extremity flexed upon the pelvis ; whilst the sole of the foot rested on the bed. When sufficiently recovered to move about, she could with difficulty place her heel upon the ground ; since which time the deformity has increased to such a degree that the heel is elevated six inches, and is covered by a fine shining skin, showing that it has not been in contact with the ground for many years. The toes are bent upwards, whilst the weight of the body is thrown upon the phalangeal ends of the metatarsal bones, which are thrown backwards, whilst their tarsal ends, together with the tarsal bones, are thrown very much forwards. The tibia, and fibula, instead of being articulated with the foot at a right angle, form with it one of about 95° . The leg is very much wasted ; the prominence of the calf is entirely lost ; the girl is exceedingly lame, and has lately suffered so much from pain in walking, that she intended to have aided herself by the use of a crutch.

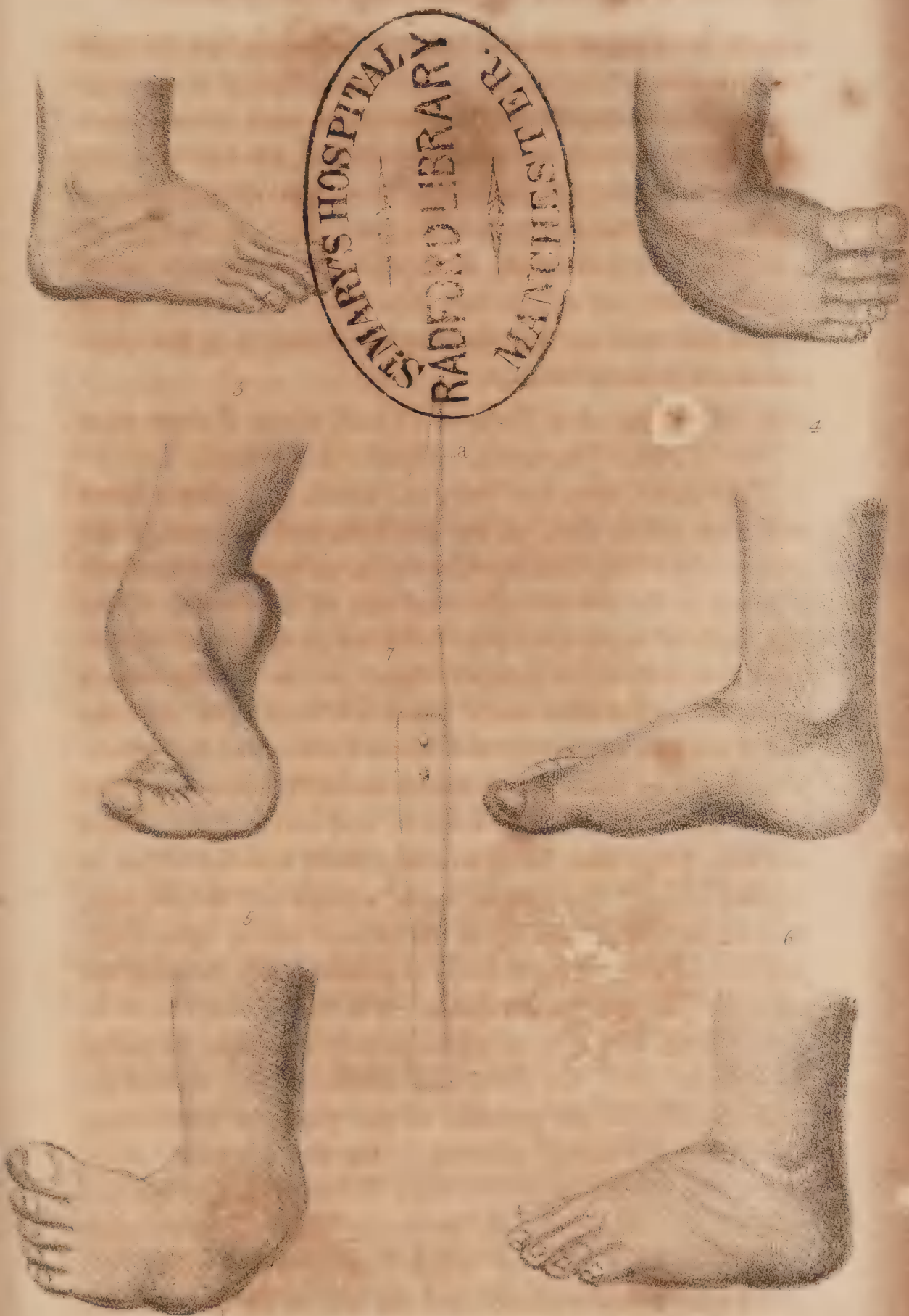
On the 27th of March, 1839, I divided the tendo Achillis, after the manner of Stromeyer, in presence of the pupils of the Jervis-street Hospital. A drop or two of blood being lost, the small puncture was closed, and a splint applied upon the front of the leg and foot, so as to keep up the extension, and to preserve the ends of the tendo Achillis as nearly as possible in apposition. On the 29th, the splint was removed, and the wound was found to have united by the first intention. On the 30th, I applied Stromeyer's apparatus, by which I was enabled to improve the position of the foot, so that it formed a right line with the tibia and fibula ; and on 17th April, the foot formed a right angle with the leg. She is now (13th May) walking about

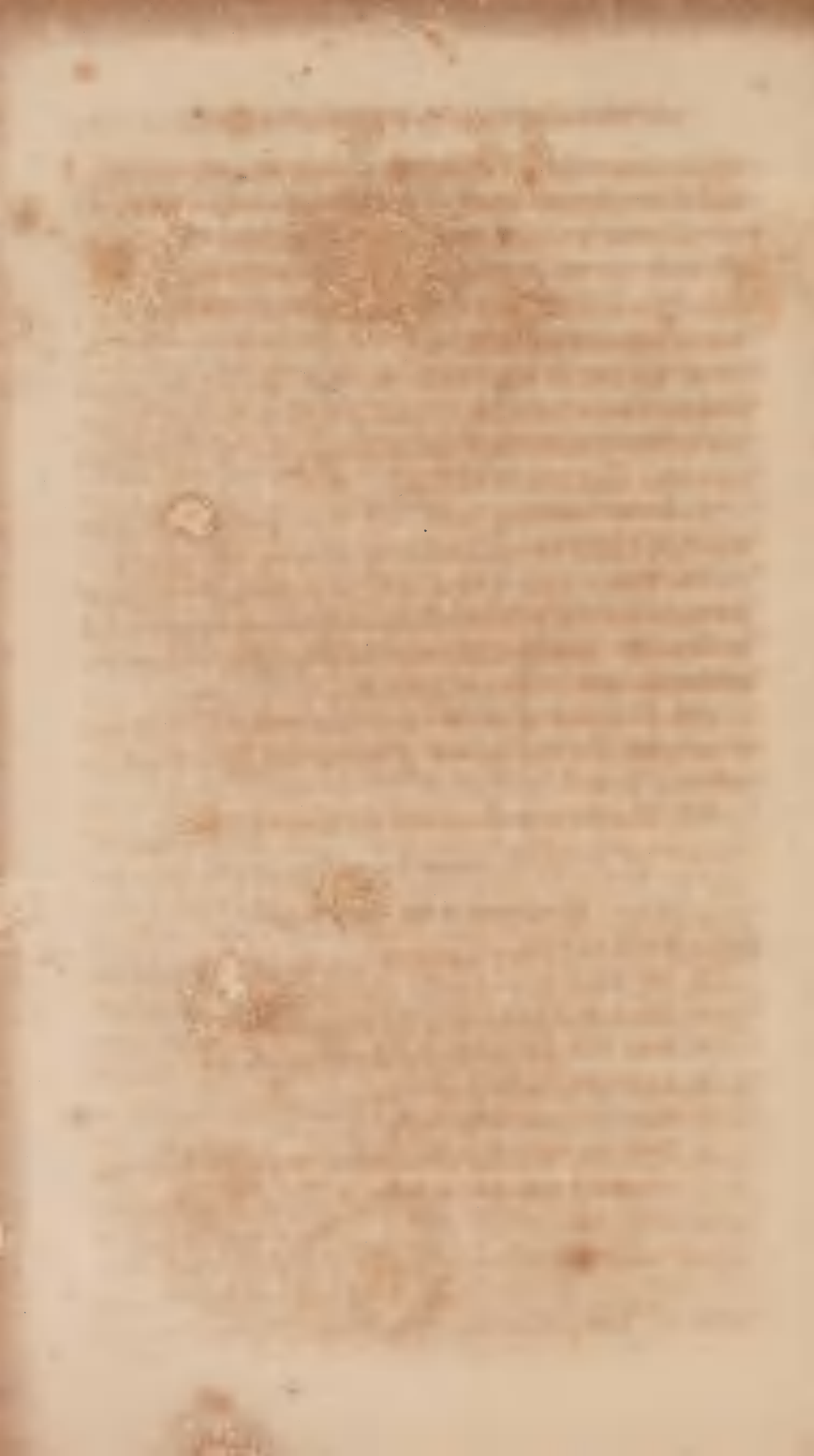
without the slightest trace of deformity, and the foot flat upon the ground.

In the commencement of the treatment, some inconvenience was experienced from the œdema of the foot, but it yielded very speedily to placing the foot and leg in an elevated position. At this time, also, the girl complained very much of pain in the sole of the foot, particularly at night, which disappeared under the administration of opiates. The foot was inclined to be thrown outwards, but this tendency was removed by the application of a suitable bandage.

CASE III.—*Congenital Varus in a Child. Great Torsion of the Foot. Operation. Cure in five Weeks.*

John Kelly, aged two years and a half, had been afflicted with a congenital varus of the left side, and so great is the torsion of the foot, that, when he walks, the weight of the body is thrown on the external edge, and part of the dorsum of the foot, both of which are covered with a very thick, callous skin, much harder than that generally found on the plantar surface in children of the same age. There is a large bursa over the end of the fifth metatarsal bone, where it unites with the cuboid. The plantar surface looks backwards and a little upwards. The heel is drawn upwards, and inwards, and about an inch and a half from the ground, being also very much rounded off on its external edge. The external ankle is larger and thrown more backwards than natural, whilst the internal one is exceedingly deficient. A considerable angle at present exists between the navicular bone and the astragalus. The leg, although large for a child of his age, is by no means so well developed as that of the opposite side. On the 27th of March, 1839, I divided the tendo Achillis, in the presence of the pupils of Jervis-street Hospital, in the manner adopted in the two preceding cases. In this case the tendon, whilst being divided, flew asunder, and gave a loud crackling sound, the muscle retracting with much force; scarcely a drop of blood flowed. The wound was closed with adhesive plaster, and the ends of the tendon were





approximated as much as possible. On the 29th, the wound was found perfectly united.

April 1st. I applied the boards of Stromeyer.

April 3d. Foot œdematous,—straps of the apparatus too tight. The apparatus was re-adjusted, and in a few hours there was no appearance of œdema.

At the end of three weeks the foot assumed the natural position, but the boards were continued for a fortnight longer. The child now walks about with such ease, that the mother says she cannot keep him off his feet.

From the preceding cases, and those published in other countries, I think we may come to the following conclusions:

1st. That in cases of varus and pes equinus, the section of the tendo Achillis, with the subsequent treatment recommended by Stromeyer, enables us to restore the power of natural motion, and to remove the deformity of the foot.

2nd. That these objects can be effected when the patient is at an age when the employment of instruments alone would be useless.

3rd. That the operation is safe and almost painless.

EXPLANATION OF THE PLATES.

Fig. 1. May's foot before operation.

2. The same, six weeks after operation.

3. The foot of E. Lawless, before operation.

4. Same foot, one month after the operation.

5. Kelly's foot before operation.

6. Same, six weeks afterwards.

7. Tenotome with which the tendons were divided, having
a cutting edge only as far as *a*.

ART. XIII.—*Medical Report of the Dundalk "Destitute Sick Society," together with a Sketch of the Medical Topography and Statistics of the Town and Parish.* BY JOHN BROWN, M. D.

THE following Report embraces a period of two years, commencing with the first of April, 1837, and terminating at the first of April, 1839. It is written, principally, with a view of contributing an item to the stock of information already possessed respecting the influence of locality on disease, and more particularly on fever.

During the progress of this disease, for some time past, throughout the kingdom, it cannot be uninteresting to have marked its course, or observed its effects in different localities, and under a variety of habits and circumstances. Neither can it be uninteresting to the steady practitioner, to have watched its modifications, arising from these causes, as serving to alter or confirm his opinions regarding the success, or applicability of any particular remedy, or line of treatment. While the observations of men on fever are confined to a particular place, the views they naturally form are too often exclusive, and hence, a more extended survey frequently changes, materially, preconceived opinions. This may not, however, and probably ought not, to influence the line of treatment they are in the habit of employing, yet they will learn, at least, that *that* line would be inappropriate, as applied to persons residing in a different locality, and placed under different circumstances.

As regards other diseases it is no less certain, that they are not only greatly influenced in amount, but also in proportion to one another from a variety in the external agencies; hence a knowledge of medical topography becomes of importance in their cure and prevention. I have therefore thought it useful, in the first place, to give a slight sketch of the medical topography and statistics of this locality.

The town of Dundalk is situated on the east side of this

coast, forty miles north of Dublin, in a pretty extensive valley, or bason, formed of an alluvial deposit, and almost on a level with the sea. On the north, and extending towards the north west, it is enclosed by the mountains of Cooley, Ravensdale and Forkhill, at a distance varying from two to five miles. Towards the south and west the country is slightly elevated, presenting an undulating surface, which is remarkably fertile. About a mile from the harbour it is enclosed, on the east, by an extensive bay, having a flat sandy shore of some miles in extent. The ground between the town and coast is extremely flat, and appears at a period not very distant to have been an entire swamp. The river of Castletown passes the northern extremity of the town, embanked for a considerable distance on both sides by a level mud deposit, which is washed by the tide: into this the sewers of the town empty themselves, though very imperfectly. The geological structure of the surrounding mountains is granitic, skirted by hornblende, and primitive greenstone; the rest of the country is chiefly occupied by clay slate, with limestone occurring in detached districts. The latter is generally of a bluish colour, abounding in many places with fossil shells, encrinites, &c. Both this and the clay slate occur near to the town, and the latter passing by, or under it, appears again at the coast in the direction of the Black Rock, about two miles distant.

The depth of the soil appears to vary from ten to eighteen inches, resting, so far as my observations extend, on a subsoil of blue marly clay, abounding in sea shells of the present era. On sinking to the depth of twelve or fourteen feet, water is found every where in abundance, of a brackish taste, holding in solution salts of lime, and muriate of soda, derived from the soil through which it percolates. A stratum of sand, a few feet in thickness, occurs below this depth; underneath which, blue clay again makes its appearance; and still deeper, I have reason to believe, we would meet the clay slate of the country. Owing to its geological position, the ground on which the town rests, and a large portion of the parish, are consequently

wet, and the sewers remain during the entire year, in many places, filled with stagnant water, from their imperfect drainage.

The atmosphere, as might naturally be expected, is rather humid, and rain falls pretty frequently. The number of wet days, or those on which rain fell, from the first of April, 1838, to April, 1839, amounted to 158. In the following table is presented the number of wet and dry days in the different months, during that period, from which it appears the wettest months for that time were July, August, October, and March.*

MONTHS.	WET.	DRY.
April,	10	20
May,	7	24
June,	12	18
July,	18	13
August,	15	16
September,	8	22
October,	15	16
November,	12	18
December,	11	20
January,	14	17
February,	14	14
March,	22	9
Totals,	185	207

From the position of the town and neighbourhood, harsh easterly winds might be expected to be very prevalent. During the foregoing period, the wind blew in an easterly direction on nearly one-half of the days, as will appear from the following tables, extracted from observations made twice daily.

FROM	DAYS.
N. and N. E.	86
S. and S. E.	75
N. and N. W.	96
S. and S. W.	108

* Last March, however, was unusually wet, even for this place.

The succeeding table presents a comparative view of these winds as they occurred in the different months :

MONTHS.	N. & N. E.	N. & N. W.	S. & S. E.	S. & S. W.
1838. April, . .	26	„	1	3
May, . .	14	5	4	8
June, . .	6	12	8	4
July, . .	4	11	9	7
August, . .	4	12	4	11
September, .	1	8	7	14
October, .	7	10	„	14
November, .	3	9	11	7
December, .	4	8	10	9
1839. January, .	6	12	1	12
February, .	3	7	6	12
March, .	8	2	14	7

Besides its liability to cold harsh winds, owing to its position on the coast, its locality is also very subject to sudden alternations of temperature from heat to cold, and *vice versa*; and from its relation to the adjoining mountains to the north, the easterly and south easterly winds are directed in currents of peculiar force and harshness, and hence chest affections, as will appear afterwards, are very common.

I regret I am unable to give any tables of the barometrical or thermometrical states of the atmosphere, but hope the preceding will serve to point out some of the meteorological phenomena of the district.

The town is composed of two principal streets, running north and south, and east and west respectively, and three others of minor importance, together with a number of lanes and yards which are kept in a most filthy condition, densely inhabited by the poor. The number of houses in 1837 amounted to 1851, at which period the population numbered 14,300, including the suburbs, and exclusive of these 10,078; since then the town has undergone many improvements, and the population much increased, probably averaging from eleven to twelve thousand inhabitants. These are variously employed in the common operations of labour, as handicraftsmen, or in trade, and many

appear to subsist without any means of permanent support. Being *possessed of no manufactories* to give constant employment to the poor, with the exception of a large foundry, distillery, and pin factory, lately established, many of the poor during the summer months suffer much privation. The food of these classes consists chiefly of salt fish, milk, potatoes, and oatmeal: with respect to their domestic economy many of the poorer habitations are extremely wretched, and a complete want of all regard for cleanliness, both in their houses and persons, is generally but too apparent. Fuel is rather scarce, the dress of the men is commonly a coarse frieze, that of the women not peculiar. Poverty and distress, therefore, with their usual concomitants, abound; and our society is frequently compelled to witness scenes of wretchedness too well calculated to awaken painful feelings. Much of this unfortunately depends on the want of employment, of education, moral culture, and on the early and ruinous habits of intoxication.

I am unable to state with any degree of accuracy the annual mortality of the entire population, but among the Protestants and Dissenters, where a registry is kept of the deaths, the mortality appears to be about one in every $62\frac{1}{2}$, which, compared with the ratio of mortality in other places, is low.

In the whole of England, for instance, it is 1 in 54; in the county of Worcester 1 in 53, in the city of Worcester 1 in 48, in Bristol 1 in 45, as calculated from means of five and ten years respectively. Epidemics have hitherto prevailed here but partially, while the adjoining towns have suffered very much; this I would partly attribute to the wideness of the streets, and their thorough ventilation, and partly also to the peculiarity mentioned above respecting the forcible currents of wind to which the district is subject.

At a period not very distant, intermittent fever was pretty common; now a case, I believe, is never seen; owing, probably, to a more perfect system of drainage, and to embankments which have been raised to defend the low grounds from the inundations of the tide. Nor have I observed the common fevers or

inflammatory complaints assume an intermittent form, though partial remissions are not unfrequent.

I shall proceed now to give a statement of the diseases of the locality, as they appear on the books of the Destitute Sick Society and Dispensary, in connexion with the Louth Hospital, to which my friend Dr. Brunker has kindly allowed me access. As these are the only public institutions in the town, for affording medical relief, they, of course, embrace a large portion of the cases of disease among the poor. The cases taken from the books of the dispensary, are from the 1st of January, 1838, to January 1839. Those of the Society from 1st of April, 1838, to April 1839; each embracing a period of one year.

DISEASES.	DISPEN- SARY.	DESTITUTE SICK SOCIETY.
General Fevers,	13	124
Eruptive Fevers,	1	13
Chest Affections,	107	28
Dyspepsia,	69	6
Amenorrhœa,	5	0
Palpitation,	6	2
Rheumatism,	37	5
Diarrhœa,	19	5
Hæmorrhoids,	5	0
Abscess,	21	2
Ulcers,	77	0
Accidents,	74	2
Skin Diseases,	30	0
Diseases of Eyes and Ears,	51	0
Gonorrhœa and Syphilis,	17	0
Hydrocele,	2	0
Hernia,	8	0
Dropsy,	9	1
Scrofula,	20	3
Miscellaneous Complaints,	27	25
Tumours,	4	0
Erysipelas,	4	0
Age and general Debility,	0	31
Totals,	606	247
		606
Total,		853

From this table it will appear, how large a proportion chest affections and fever bear to other complaints, but this proportion is rather high, as the cases of disease in the Surgical Infirmary are not included ; these, however, are not numerous, as the infirmary admits the major portion of its cases from other parts of the country. I have selected the last year's returns for comparison, as I believe they come very near the usual proportion of cases of fever, which occur annually, as appears by referring to one of the books of the old Louth Fever Hospital.

The proportion of rheumatic affections is 1 in 20.3, this, considering the damp and exposed situation of the locality, together with the domestic economy of the people, is low, and as compared with other places apparently more favourably situated. In the north of England, the proportion is as 1 in 22 ; in Penzance as in 20.3 ; Plymouth, 1 in 18.

Under the head rheumatism are classed, lumbago and sciatica ; but the cases of these are very trifling, only amounting to one of the first and three of the second. The disease was most prevalent in the months of April, May, and June. These were by no means, as appears from a former table, the wettest months ; hence it might be argued that moisture had no influence in producing this disease, but on referring to Table 3, it will be seen, with the exception of March, they had the largest proportion of easterly winds. I cannot say, however, how far this may be a satisfactory solution of the cause.

Having given this general outline of topography and medical statistics, I shall conclude with a report of the cases occurring under the care of the Society for the last two years ; commencing in the 1st of April, 1837 ; amounting in all to 634 cases, out of which there were 48 deaths. If from this are excluded, nine deaths arising from old age and general debility, the mortality in the cases of general sickness treated under the Society will amount to 1 in every 16, and a fraction.

DISEASES.	CASES.	DEATHS.
General Fevers,	375	14
Eruptive Fevers,	30	3
Acute and Sub-acute Bronchitis, . .	39	3
Chronic Bronchitis,	28	3
Pleuritis,	5	0
Pneumonia,	2	0
Asthma,	7	1
Influenza,	8	0
Phthisis,	3	3
Dyspepsia,	39	2
Enteritis and Diarrhœa,	14	1
Remittent Fever,	4	0
Rheumatism,	13	0
Scrofula,	8	4
Chronic Hepatitis,	2	1
Convulsions and Paralysis,	3	2
Chronic Disease of Heart,	3	0
Dropsy,	4	1
Injury,	3	0
Ulcers,	4	0
From Starvation,	2	1
Age and general Debility,	7	9
Hæmoptysis,	1	0
Total,	634	48

From this table it will appear, that the cases of fever in this place were not above a third more numerous, during its late prevalence, than what is usual in the same space of time. To this disease I shall confine the remaining remarks. In doing so, I may state that, with the majority of British practitioners, I believe it to be an essential disease, not symptomatic of any particular lesion; that the system, *pro tempore*, labours under the influence of a poison; that the result is influenced by the nature of the prevailing epidemic; by the amount of poison infused, and by the condition and age of individuals.

The ratio of mortality is very various in different localities, and among persons of different ages. Of all the circumstances

influencing the result, this last has probably the greatest share. Fever in the young generally proceeds favourably ; and though with age the susceptibility diminishes, the mortality augments.

In the preceding 375 cases, there were fourteen deaths, or 1 in every 26. 12. Out of these fourteen deaths, only one occurred below ten years of age, though a very large proportion of the cases were under this age. A statement, to the same effect, occurs in the very able report of Dr. Geary, of Limerick, in a former number of this Journal. From that document it would appear, that while the deaths below twenty years of age amounted to only three and a-half per cent., in those of two successive periods of equal duration, the mortality reached eleven and twenty-five per cent. respectively. Again, in the Report of Dr. Craigie, of Edinburgh, where I suspect the majority of the patients had arrived at maturity, the deaths amount to about thirteen and a-half per cent. ; there were probably, however, other causes influencing the result in this instance.

Regarding the susceptibility to fever, it is well known to be vastly greater in the young. In sixty-two cases, taken as they occurred, where the age was accurately marked, the following was the respective number of each particular age :

Under 10 years there were	23
Between 10 and 20 . . .	22
" 20 and 40 . . .	10
Below 40	7

Total 62

In Dr. Geary's Report, out of 3227 cases, 203 were below the age of 20, the greatest proportion occurring about the age of fifteen.

In the majority of cases which occurred I have every reason to believe the disease was traceable to contagion. Though not confined to any one part of the town, the larger proportion of cases appeared in two districts, the north and south, in narrow filthy lanes and confined yards, where the habitations of the poor are crowded together and densely inhabited.

Among these the disease generally spread from house to house, and once one member of a family was seized with the complaint, it usually, before ceasing, attached all the inmates. Some instances occurred, for which cold and intemperance could be assigned as the only causes.

The duration of the disease was very various, and did not appear to depend on age, or any other cognizable circumstance. In eighteen cases for instance, particularly marked, of fifteen days' duration, there were,

No.	4	4	2	2	1	1	1	1	1	1
Age,	7	10	8	13	11	1	15	16	27	35

And in eleven cases of twenty days' duration there were,

No.	2	1	1	1	1	1	1	1	2
Age,	15	14	18	20	25	35	37	40	45

Relapses were very rare, indeed, so far as I can recollect, in not more than two instances, and when symptoms of recovery once appeared, the improvement was very rapid. This rarity of relapse I attribute to two causes; to their living in their own cabins, and consequently being kept in the condition of atmosphere to which they had been accustomed; and next, to absence of many of those inducements to indulge at an improper period, supplied to others more comfortably circumstanced; while at the same time they enjoyed a sufficient supply of wholesome food from the Society.

Complications were very frequent, though seldom of such a high inflammatory nature, as to demand the employment of general blood-letting; and in the few instances where it was resorted to, the result was such, as held out inducements for further trial.

In thirty-eight cases at the beginning of the epidemic the following was observed :—

Symptoms of head affection alone in	. .	10 cases.
„ „ of chest affection alone in	. .	3 „
„ „ of epigastric organs alone in	. .	5 „
„ „ of head and chest alone in	. .	4 „
„ „ of chest and epigastrium alone in		0 „
„ „ of head, chest, and epigastrium,		3 „
„ „ complicated with worms, . . .		2 „
„ „ of head and epigastrium, . . .		6 „
„ „ simple and uncomplicated . . .		4 „
„ „ adynamic,		1 „

Of the four uncomplicated cases, one was a man 35 years of ages, the other were children. Diarrhœa was not an unfrequent complication, especially towards the termination of the disease.

In forty-eight cases observed at the termination of this Report, the following symptoms appeared :—

Symptoms of head affection alone in	. .	11 cases.
„ „ of chest affections alone in	. .	2 „
„ „ of epigastric organs alone in	. .	7 „
„ „ of head and epigastrium, . . .		7 „
„ „ of head and chest alone in . . .		1 „
„ „ of chest and epigastrium alone . .		1 „
„ „ of head, chest, and epigastrium		4 „
„ „ cases of simple fever,		6 „
„ „ pure adynamia		1 „

Most of the cases which occurred presented an eruption of the skin. This generally made its appearance about the fourth day of the fever, and remained for an indefinite period; but usually it began to fade in four or five days.

Four forms of eruption were observed; one kind was red, and in young children very much resembled an eruption of measles: in the former, as far as I have observed, the head was

most frequently and pretty early engaged. Another form of eruption, which was by far the most common, was that of dusky maculæ. These cases frequently presented bronchitis; and a still rarer form was that of purple petechiæ; but no cases occurred of regular vibices or blotches. The maculæ were often felt elevated and rough, and during the evening exacerbations, or under the influence of stimuli, became brighter.

In the fever which has prevailed here, I have generally observed the pulse extremely rapid; more so especially in cases complicated with epigastric symptoms. This rapidity of pulse was much greater in proportion to the *natural* standard in *adults* than in children. I know not how far this may accord with the very curious researches of Dr. Stokes, on the state of the heart in typhus; but all are aware how much more frequent disease of this organ is in the old than the young. My attention was not directed to the state of this organ particularly; but in one case in which I was much interested, the state of the heart and pulse were often compared, and in that instance its action was far greater than the pulse indicated; in fact the pulse was scarcely perceptible, when the heart was still acting pretty vigorously: this case proved fatal.

The treatment employed varied much, according to the period at which the patient was seen, the combination of symptoms, and organs affected. If seen at an early period, calomel or blue pill was generally administered in combination with James' powder or antimonial powder, and tart. antimonii, followed by a saline aperient the following morning. In some instances the head was shaved, but not frequently; generally the hair was merely cut shorter and cold applied, at the same time causing the surface to be sponged, where other symptoms did not forbid its employment.

Where delirium set in early, accompanied with increased action, and where there was no tenderness of the epigastrium, I have generally employed the tart. antimonii in solution combined with opium, as recommended by Dr. Graves. Frequently,

however, the delirium was of a different character, and was treated by gentle stimulants and cordials, with or without opium, and by blisters to the nape of the neck. I have never resorted to blistering the entire scalp, and, from what I have observed, would hesitate much before doing so, except when the patient had passed into stupor, or the disease was marked by great prostration.

The tenderness of the epigastrium I found generally yielded to fomentations or blisters—sometimes to poultices. Where diarrhoea became excessive, I have employed acetate of lead and opium, camph. mixture and chalk, or hydrarg. c. creta. and Dover's powder, according to circumstances. In some cases accompanied with tympanitis, and in others with stupor, I have found the most beneficial results from the oil of turpentine, either by the mouth or in enema.

Where bronchitis was the principal complication, (which was the only form of chest affection I observed,) I have frequently trusted to the tartrate of antimony in small and frequent doses; but where it occurred at an advanced stage, I have generally resorted to the blue pill and camph. mixture, with carb. of ammonia and blistering to the back or sides; sometimes combining the ammonia with vinum ipecacuanhæ, tinct. opii camph. and syrup zingiberis.

In almost every instance where the dusky eruption appeared, there was more or less of bronchitis, with a quick small pulse, dry brown tongue, and sordes on the teeth and lips. Here the chloride of potass was frequently given, generally with camphor mixture and carbonate of ammonia, and sometimes with the addition of ether. It was also used in the form recommended by Mr. Wilson, of St. Giles, combined with muriate and carbonate of soda. Except in a few instances, I cannot say I observed the effects resulting from its employment mentioned by others, and have latterly thought the solution of carbonate of soda, in camphor mixture or water, and rendered palatable by syrup of orange peel, answered equally well. To this latter, along with hyoscyamus and blue pill, using at the same time

fomentations, I have resorted much, in cases of epigastric tenderness; it appears to relieve, and at the same time to improve the secretions, better than any other treatment.

Wine and porter were freely resorted to, when considered necessary, but not, in any instance, to the amount which Dr. Stokes has so successfully prescribed to some of his patients. Nor indeed is it probable that here such large quantities would be often required. I regret, however, that I was not long since acquainted with his paper, as I now fear I hesitated from want of some *certain* guide, in one or two instances, to resort to it in sufficient quantity. I have not been deterred, however, in giving it often where symptoms would have appeared to contra-indicate its use, but where the vascular powers and vital condition seemed to require it in cases accompanied with delirium, in some with epigastric tenderness, (employing at the same time blisters over this region,) and under all conditions of the tongue, except where it was fiery red, and the papillæ erect.

The preceding cases were all treated at their respective habitations; and, if permitted to form a conclusion from what I have observed, I should say, that cases of fever among the poor turn out generally as favourably when attended at their own houses as when removed to hospital. Such attendance, however, is accompanied with many inconveniences and difficulties, especially in the application of leeches, and due administration of medicine.

ART. XIV.—*Propositions relating to Diseases of the Stomach.* By JONATHAN OSBORNE, M. D., Vice-President of the King and Queen's College of Physicians in Ireland, Physician to Sir Patrick Dun's and Mercer's Hospitals, Member of the Royal Literary and Historical Society of Quebec, &c.

[Continued from Vol. XIV. page 502.]

SEVENTH PROPOSITION.—*The causes of acute inflammation are the chemical action of substances taken into the stomach; sudden application of cold externally or internally; metastasis of gout or rheumatism.*

EIGHTH PROPOSITION.—*Chronic inflammation is denoted by the same symptoms as chronic irritation, but in a more permanent form, and also by more or less of pain or general uneasiness immediately after eating. The tongue is sometimes natural, but is more frequently coated, and at the upper surface deprived of its natural feeling, dotted with red spots towards the points and edges, marked with dry streaks towards the centre, or intersected by deep fissures. There are sometimes aphthæ and red streaks in the pharynx.*

General Uneasiness.—This uneasiness assumes a great variety of forms, of which the following are amongst the most remarkable: heat of the hands and feet, chilliness with an approach to rigor; headach, mostly frontal, with dulness and inaptitude for occupation, or an indescribable sensation of misery and discomfort, causing the unhappy sufferer to be dissatisfied with all around him. It is to this latter feeling, connected with chronic inflammation of the stomach, arising from impeded circulation through the liver, that we are to ascribe the fact, that persons with broken health returned from India are so often a prey to discontent, that they cannot be induced

to settle any where, and spend the remainder of their lives wandering about through various places of resort, seeking rest and finding none. These have been often compared to the ghosts in Virgil, and formed the floating population of watering places.

NINTH PROPOSITION.—*The causes of chronic inflammation are the previous existence of acute inflammation or of neglected irritation of the mucous membrane ; long continued irritation of the gastric glands ; open ulceration or development of scirrhus structure ; irritating diet ; abuse of spirituous liquors ; long abstinence.*

The previous Existence of acute Inflammation.—Let an attack of acute gastritis be inadequately treated, and the symptoms only palliated by purgatives, then a state of chronic inflammation ensues, which often suggests to the practitioner and the patient the notion that the work of purgation has been only half accomplished. Hence follows an administration of more active purgatives, which, from their irritating effect while in the stomach, are a source of fresh aggravation, and cause the inflammation to extend to the mucous surface of the bowels.

Long continued Irritation of the gastric Glands.—This fact is one which tends much to confound the two leading diseases of the stomach, which I have endeavoured to distinguish ; for, although at the commencement of irritation of the gastric glands it is not accompanied by thirst or any other symptom of mucous irritation, yet when it has lasted some time, or come on with peculiar severity, then the quantity of sour fluid poured into the stomach, causes not only irritation, but eventually inflammation of the mucous membrane ; and it is the usual course that, after long continued sour dyspepsia, the symptoms described in the present section gradually come on. When scirrhus structure has formed in the seat of the gastric glands and has ulcerated, then the symptoms of the two diseases are most unequivocally united in the one case : then, along with coffee-ground vomiting, there are also superadded thirst, loss of appetite, flushes, and

the other symptoms belonging to inflammation of the mucous membrane.

Long Abstinence.—It appears a paradox, and yet is true, that those who die of starvation usually die with the mucous membrane of the stomach and bowels in a state of inflammation, and generally ulceration. Of this I have satisfied myself by the numerous opportunities which our hospitals afford of seeing such cases. Hence it may be presumed that fasting is injurious, and induces a state of irritability, causing the membrane to pass very readily into a state of inflammation. The general rule of diet in those threatened with chronic gastritis should be not to remain without eating longer than about five hours, to eat a small quantity well masticated, and composed of the least irritating ingredients.

TENTH PROPOSITION.—*In acute inflammation of the mucous membrane, the most useful remedies are the application of leeches, of counter-irritants, and of warm poultices to the region of the stomach, the internal administration of cold water, of the astringents mentioned (PROP. V.) and of calomel and opium; the removal of the contents of the bowels, and the excitement of perspiration.*

Application of Leeches.—The utmost benefit to be obtained from these does not depend on their number above a certain limit, and this limit appears to me to be about ten or twelve. Let it be remembered that the application of leeches to the exterior of the abdomen cannot unload the vessels of any of the parts covered by the peritoneum, by direct communication of the vessels, that as the veins of the stomach and intestines terminate in the vena porta, while their arteries are derived from the aorta, there is no communication between them and the vessels pierced by the leeches, except what results from their mutual connexion with the aorta and vena cava. Hence, as we cannot explain the good effects of leeches thus applied, by

supposing them to deplete vessels of the part affected, we are forced either to avow our ignorance of their mode of action, or to resort to a sympathy between inflamed membranes in the interior and the skin immediately over them. In either case, we are furnished with no argument for presuming that the depletion of the internal vessels will be proportionate to the depletion of the vessels of the skin, or to the number of leeches applied. In my own experience, I have never seen more benefit obtained from twenty or thirty leeches than from ten or twelve, while the paleness of the skin and deficiency of capillary action induced by them, shew how dangerous they may become when applied in such numbers as fifty or upwards in cases attended with sinking of the vital forces.

It is convenient in acute cases, when no time is to be lost, to remember that once the leeches have been applied, the patient may obtain the advantage of external heat by sitting in a hip bath, as the leeches will not be deterred from continuing their action when immersed in water of that temperature, and that once they have begun to drop off, those which linger may be immediately dislodged by sprinkling salt on them. I have, on a former occasion, insisted on the application of dry cloths in preference to moist ones, as the former have the advantage of capillary attraction in drawing blood from the leech bites. Another convenience is to make the application of leeches in a hole cut in the centre of a blister, as the entire of the leeching process will be completed before the blister begins to rise, and thus no time will be lost.

The symptom which, with the most uniformity and certainty, is removed by the application of leeches, is thirst; and the cases in which it is most required and is attended with the most decided benefit are those attended by thirst. In proportion as the complaint is of a chronic character, the benefit from leeches is less decided.

Counter-irritants.—I have already mentioned the use of counter-irritants applied over the stomach. An application of

mustard, exactly as used at table, is attended with manifest and permanent benefit ; but it must be repeated regularly every evening, and in severe cases also every morning, as the external irritation of it only lasts three or four hours. A blister, although good in theory, and no doubt useful, is still a detestable remedy in a chronic ailment, in which there is sufficient cause for discomfort without the addition of the odour of cantharides plaster ascending up under the nose, and all the trouble attendant on healing the raw surface. I find that a strong tincture of cantharides never fails to blister, and that without rupturing the cuticle. A convenient mode of applying this is to moisten a piece of blotting paper in it, and to place it on the skin under a larger piece of oiled silk. Another useful counter-irritant is the tincture of capsicum, applied in the same manner, which acts rapidly, but is not superior to mustard.

The application of poultices over the stomach is valuable as a sedative ; and, although we are not in the habit of using it in this disease, is yet as useful to the stomach as to the bowels or the bladder, or any other part. As the weight may be sometimes oppressive, it is convenient to avoid this by using scalded sawdust freshly heated and placed in a large bladder, which the patient can shift about as may best suit his feelings.

The internal Administration of cold Water.—To this we are directed by instinct in every case of acute gastritis, and all that is required in obeying the instinct is to do so in such a manner as to procure a sedative and not a stimulating effect. This may be accomplished by drinking slowly and in small quantities, so as to keep up a continued reduction of temperature in the interior of the stomach. For slight cases of acute gastritis, cold water alone is sometimes a cure. Let us take the case of an individual who dines in company and takes of a variety of dishes, with wines to which he is unaccustomed ; he wakes in the middle of the night with a burning thirst, frontal headache, and heat of his hands and feet ; he gets up, gropes about in search of the water jug ; if happily he finds a sufficient supply,

he takes long and repeated draughts, falls into a sleep, followed by perspiration, and awakes free from complaint. If he is not so fortunate as to extinguish the commencing gastritis in this way, and finds himself on the succeeding day deprived of appetite and annoyed by headach, bad taste, and thirst, a very generally successful mode of treatment is to take ices or soda water in the forenoon, and to provide for a proper evacuation of the bowels, by taking a few of Dr. Kitchener's *peristaltic persuaders*. In this, the effect of the cold applied to the stomach is often most immediate, the headach often vanishing in a few minutes after the ice has been taken,—thus proving the closeness of the connexion between the head and the stomach.

In addition to the coldness of water, the carbonic acid contained in it is a very important ingredient, even although the quantity may be small, as in well or river water. When a bottle of soda water is uncorked, the carbonic acid, which, under the high pressure was in the fluid form, as in Faraday's experiment, rapidly assumes the gaseous form, and thus a very considerable degree of cold is produced in the stomach when it is taken immediately. The carbonic acid is a sedative, and accordingly is commonly used for appeasing vomiting, in the form of effervescing draughts. The most convenient mode of administering it in a moderate and fixed dose is in Selzer water as imported from Nieder Selters. The earthen jars are conveniently cooled by wrapping them in cloths dipped in water, vinegar and water, or spirits and water, and exposing them to a current of air in a shady place. The evaporation thus produced sometimes cools the water down to nearly the freezing point.

ELEVENTH PROPOSITION.—*Chronic inflammation of the stomach requires the well-timed administration of warm water and of the sedative astringents, the frequent application of vesicatories and other irritants to the region of the stomach, a diet consisting exclusively of those substances which are soothing to an inflamed surface on the exterior of the body,*

baths, hot or cold, according as they are found most to promote the circulation at the surface of the body, regular evacuation of the bowels by means of enemata or of pills acting only on the lower bowels, frictions, and free exercise in the open air.

Chronic Inflammation of the Stomach—the disease which of all others is most frequently mismanaged, not so much by want of knowledge on the part of the physician, as by want of the requisite forbearance on the part of the patient and his friends. Here it is required that the physician should be one set in authority, and if at a distance from the patient's residence, who will have to perform a voyage to get to him, so much the better. If the medical attendant has not some prestige surrounding him, the friends of the invalid, who are always most liberal of their good advice, will continue to point to his weakness, to the poor diet, and to instances of stomach complaint in which animal diet and wine were attended with immediate benefit. The news is too gratifying not to be believed. It is resolved in a diet of elderly maiden ladies that their favourite doctor is to be called in. The practitioner who is treating it on sure principles, and which only require time to lead to a successful result, is forced to give place, and it only remains for him, like Chancellor Oxiestern, to exclaim *Quam parva sapientia regitur mundus!* This is undoubtedly a common occurrence in all diseases, but is in an especial manner frequent and almost universal in this, in which the uncomfortable feeling of the patient, the tediousness, the restricted diet when the principal complaint appears to be debility, all tend to produce dissatisfaction and impatience.

The well-timed Administration of warm Water.—Hence the efficacy of the thermal mineral springs. The same good effects are to be attained at home, if a sufficient quantity of warm water be drunk on an empty stomach in the morning, and its operation assisted by exercise, as is practised at the spas. When the mucus has thus been dislodged and cleared out from the

stomach, then the astringent formula, which I have before stated, may be used with the happiest effect. For the remainder of the articles mentioned in this Proposition, I refer to the note to Prop. V., and I now subjoin a few cases, as specimens, to illustrate some of the points which I have endeavoured to lay down on the subject of inflammation and irritation of the mucous membrane.

CASE I.—James Hurley, æt. 38, admitted into hospital 9th of May, with total loss of appetite, considerable emaciation, thirst, occasional vomiting of bilious fluid, slight diarrhœa, with some appearances of blood in dejections; pulse about ninety; burning sensation in palms of his hands. On examination of his chest, nothing was discovered. These complaints have lasted four months. Was ordered to take tepid bath in the evening; eight leeches to be applied to the larynx.

℞ Nitr. Argenti gr. iv.

Aquæ distill. ℥ viii.

St. ℥ ss 2dis Hous. M.

℞ Extr. Opii gr. ss.

Extr. Hæmatox gr. iv. M.

Ft. pil. vespere et nocte sumend.

10th. Cough much better; diarrhœa has ceased; slight increase of appetite.

He continued to improve until attacked with influenza, which caused an interruption in the treatment for a few days, when, under a continuance of the same plan of treatment, the thirst was subdued, appetite restored, and the bowels became natural. To obviate the torpid state of the secretions resulting from so long an illness, when dismissed on the 27th May he was directed to take a coffee-cup full of the juice of the following herbs, viz. *Leontodon taraxacum*, *Cynoglossum officinale*, and *Galium aparine*, three times daily.

CASE II.—*Congested mucous Membrane of the Stomach, in Connexion with enlarged Liver and chronic Bronchitis.*

Elizabeth Keating, æt. 48, widow, admitted 13th of May; vomiting of food or of bitter fluids; œdema of face, abdomen, and

legs; sublividity of lips and extremities; pulse 120; cough; sleep disturbed by starts. On examination of the chest, emphysema in some parts and feeble respiration from extensive mucous effusion were detected. The œdema was first observed about five weeks ago, but has been subject, for the last three years, to cough occasionally, hæmoptysis, and palpitations. Several remedies were resorted to in order to check the vomiting, but without effect until the 17th, when she was ordered to take spoonfuls of a raw egg. It had an immediate effect, and by means of it, to the termination of the case, the vomiting could always be repressed.

On the 22nd, however, the feebleness of the circulation had progressively increased to that degree that it became necessary to give her gin punch with other cordials.

26th. She became insensible; veins of the neck turgid; face livid and the extremities cold; the tracheal rattle announced the accumulation of mucus in the larger tubes, and she died the following night.

Necroscopia.—*Stomach.* Mucous membrane enormously congested; in some places thin and pulpy, with extravasation underneath, and a blackish fluid contained in the viscus.

Intestinal canal considerably congested throughout.

Liver. Enlarged to more than twice its natural size. On a section being made the yellow substance greatly hypertrophied, gall bladder, spleen, pancreas, and kidneys healthy.

Lungs. Collapsing but slightly, considerable emphysema; bronchial tubes filled with whitish opaque fluid. The transverse muscular fibres remarkably distinct, even in the most minute bronchia.

Heart. Right cavities distended; otherwise healthy.

CASE III.—Mary Maguire, aged 22, admitted 22nd of March. Appetite much impaired; pain in the left side, much aggravated by eating; tongue streaked; dryness of throat; bad taste in mouth every morning; flushes of heat in hands and feet, followed by perspirations; bowels nearly natural;

pulse 108; duration of illness about a month; cause unknown.

℞ Superacetatis Plumbi, gr. xii.

Aceti 3 ss.

Acetatis Morphiæ, gr. ss.

Aquæ distillatæ, ʒ viii.

St. ʒ i. ter in die. M.

Hirudines 8 reg. ventriculi.

23rd. Feels better.

Bal. vesp. Cont. mist.

25th. Pulse 84; soreness at the pit of the stomach; on swallowing has a sensation as if scraped inside in the stomach; no appetite; a lurid aspect of countenance; bowels confined.

Hirudines decem reg. ventriculi.

Enema fetidum meridie.

A sinapism to be applied to the stomach every night.

Cont. mist. Plumbi.

27th. Tenderness of stomach better; appetite improved.

Enema terebinthinæ. Cont. cætera.

28th. Appetite continues to amend; lurid aspect gone; red streaks of the tongue; now assuming the natural whitish appearance.

April 1st. All the symptoms removed; appetite restored; some bad taste in the morning apparently depending on torpid bowels. Dismissed free from complaint.

CASE IV.—*Headach depending on Gastric Irritation.*

Anne Bramer, aged 24, admitted 2nd of October. Frontal headach, aggravated at night, increased by cough; pain shooting occasionally into the right eye; defect of appetite; thirst; tongue red, smooth, with some papillæ in a state of erection; sense of distension commencing two hours after eating; meat feels heavy on her stomach; milk turns sour; vegetable substances agree best; pulse 72, languid; some fulness of abdo-

men; bowels reported natural; catamenia absent three months; present symptoms have lasted above two months; was under treatment five weeks before her admission, but without effect.

Hirudines x. reg. ventriculi.

℞ Sup. Acetatis Plumb. gr. xvi.

Aceti 3s.

Aquæ distill. ʒ viii. M.

ʒ i. 2dis horis.

Haustus Rhei cras mane.

Boiled rice for dinner.

6th. Feels much better; pain of head very slight; thirst diminished; tongue whiter and more natural in the middle; some uneasiness still felt in the stomach.

Repetantur Hirudines. Cont. cætera.

8th. Sensation in stomach gone; appetite still defective.

Infus. Anthemidis ʒ i. mane et meridie; Mixtura Plumbi ʒ i. omni nocte; semicup. vesperi.

17th. Appetite much improved; free from complaint. Having ascertained that the catamenia formerly occurred about the middle of the month, she was directed at that time to use the semicupium and the following pills:

℞ Sulp. Quininae,

Digitalis,

Utriusque gr. v.

Assafoetida ʒi.

Ft. Pil. x M. St. j. ter in die.

CASE V.—Miss N——, of a consumptive family, was brought from the South of Ireland by her friends, under the conviction that she was already the subject of the disease, and her appearance was such as to almost preclude hope; the emaciation was extreme; every night she had profuse perspirations; there were slight cough, total loss of appetite, catamenia absent, thirst, and an uneasy sensation in the stomach, especially after taking any thing. These symptoms had progressively increased during

four months. Having carefully examined the chest, and ascertained that the respiration, though feeble, was vesicular throughout ; and having taken this into consideration, with the state of pulse, which was languid, and only about 80, I was convinced that the stomach was the organ primarily affected. She commenced the mixture of the acetate of lead and morphia, half an ounce three times daily, taking after it as much warm water as she could, without provoking nausea ; a sinapism was applied to the stomach every evening. Within three days great ease was obtained, and by perseverance in the treatment a restoration of appetite was effected ; she gained flesh and strength, and was able to return home free from complaint. About three months afterwards the same young lady was again brought up to Dublin in nearly the same state as before, but with more cough, an excited pulse, and occasional œdema of the legs. The same treatment was again attended with the same happy effect, but during her recovery she took the influenza, had hæmoptysis, with an alarming dulness under the left clavicle ; the pulse rose to 120, and it was feared, that she was to be numbered amongst the many victims to consumption belonging to her family. By the application of leeches to the larynx, vegetable and egg diet, and the use of the lead mixture with warm water, the appetite was again restored, the cough and dulness under the clavicle gradually disappeared, the pulse returned to its natural standard, and she has again returned to the country, having perfectly recovered her flesh and healthy appearance, and quite free from complaint, except that the catamenia are still absent.

CASE VI.—Henry Blackmore, aged 14, admitted 17th January. Epigastric fulness and tenderness ; total loss of appetite ; tongue dry, red at the point, remaining surface covered with a whitish fur ; severe frontal headach ; pulse twenty ; bowels free, from purgatives administered before admission ; duration of illness a fortnight, attributed to cold. To take a large tumbler of warm water thrice daily.

19th. Tongue cleaner ; pulse softer, ninety-six.

20th. Is quite restored to appetite, and was in a few days dismissed.

CASE VII.—Catherine M'Donnell, aged 19, admitted 13th of July. Total loss of appetite ; perpetual nausea ; vomiting, or sense of sinking immediately after taking food ; tongue coated ; bad taste in the morning ; thirst ; heat in the hands and feet ; pulse about ninety. Milk and water stay best on the stomach ; most ease obtained when she lies on the right side ; cough, expectoration opaque globular ; œdema of legs ; has had occasional hæmoptysis ; moist crepitus under right clavicle and above right scapula, with dull sound on percussion ; resonance of the voice.

Complaint of the stomach came on eight months ago ; has been much aggravated for the last two months ; is reported to have had cough for two years ; has several cicatrices under jaws.

℞ Nitrat. Argenti gr. ii.

Aquæ Distil. ℥ i.

Take a tea-spoonful in a tumbler of water, three times in the day. For diet—stirabout for breakfast ; two eggs in the day.

16th. Nausea and vomiting nearly gone. Appetite reviving.

Vesicat. clavic. dext. Continue the solution.

22nd. Appetite completely restored. Has not vomited since. No sensation after eating. Cough diminished ; bowels natural. Is dismissed at her own request, free from complaint as to her stomach.

TWELFTH PROPOSITION.—*Disease of the mucous membrane of the stomach is liable to be confounded with—1st. Irritation of the gastric glands. 2nd. Spinal neuralgia. 3rd. Disease of the colon. 4th. Of the liver and spleen. 5th. Diseases of the heart. 6th. With all the diseases by which the viscus may be sympathetically influenced.*

Irritation of the gastric Glands.—Diagnosed, according to the views which I have endeavoured to explain, by sour vomit-

ing, heart-burn, uneasiness not coming on till the process of digestion is in full activity, absence of thirst, continuance of good appetite, and aggravation of symptoms by vegetable diet. The same disease, when it has proceeded to ulceration, diagnosed by vomiting of grumous dark shreds resembling coffee-grounds, pain towards the pyloric extremity, aggravated by lying thereon, anteriorly or posteriorly, according as the contents of the stomach are brought in contact with the ulcer, and by the symptoms of mucous irritation being now superadded to those of irritation of the gastric glands, requiring now a return to vegetable diet. For the symptoms belonging to the mucous membrane, which afford abundant points of contrast between the two diseases, I refer to the first, third, and eighth Propositions of the present section.

Spinal Neuralgia.—Diagnosed by, 1st, pain shooting to the spine ; and, 2nd, (generally, but not always,) by tenderness at the side of the spinal column in the part corresponding with the origin of the nerve proceeding to the seat of pain ; 3rd, weariness referred to the ribs, and commonly described as oppression of breathing ; and, 4th, neuralgic sensations towards the lower extremities. The great frequency of this disease, in combination with amenorrhœa and congestion of the mucous membrane of the stomach, has caused writers to confound the symptoms of each with those of the other two.

Disease of the Colon.—Diagnosed by diarrhœa, the motions preceded by pain in the region of the colon, from the presence of the fæcal matter passing over the diseased surface. Disease of this part is usually attended by sympathetic irritation of the stomach, as above described. (See Proposition VII.)

Disease of the Liver and Spleen.—The greater number of symptoms usually ascribed to these organs are to be referred to the congested state of the portal circulation, and the deranged sensibility of the mucous membrane of the stomach consequent thereto.

Diseases of the Heart.—The disease of the heart which

most frequently imitated by sympathies acting on that organ, is diseased mitral valve, which admits an easy explanation. As the fact cannot be denied, that tumultuous action of the heart may be instantly produced by mental excitement, it will be conceded that the carneæ columnæ are as likely as any other part to be thrown into a state of unusual contraction, and if so, the mitral valve being held down, the passage between the auricle and ventricle remains open, thus the individual feels, not only palpitation, but oppression of breathing, causing panting and hurried respiration from the regurgitation of blood direct from the ventricle into the lungs. This state occurs in some individuals after meals, but it, as well as all other sympathetic disturbances of the heart, are to be distinguished from those which arise from organic causes by one circumstance, viz. that the former are temporary, and the latter permanent.

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Recent Continental Intelligence, connected with the Practice of Medicine and Surgery. Extracted from the foreign Journals by S. L. L. BIGGER, M. B., L. R. C. S. I.

Exophthalmos. Dr. DOHLHOFF.

ANDREAS Theile, æt. 36, of very weak constitution of body, came under my care in December, 1836. He had had small-pox when a child, and was subject to scrofulous enlargements of the glands of the neck; at 16 years of age he had an attack of pneumonia, from which period he never was free from cough and expectoration.

Four years ago he was attacked with violent pain in the head, in the region of the forehead, which was equally violent night and day, but which only came on at particular periods, remained from three to six weeks, and then ceased. When this state of things had lasted for a year, he remarked a loss of vision in his left eye, but after a period of two months he was able to see a little with it again; it was only since this respite, the period when the ball of the eye began to be pushed from the orbit, that he was barely able to distinguish light from darkness, but not able to distinguish particular objects. As soon as the eye began to be projected from its socket, there was a cessation of the pain in the head which had hitherto existed, but the patient was unable to breathe through his nose, and the voice assumed a nasal character during eight days, for which time there was a fluid of a brownish colour discharged from the left nostril. The left eye now projected so much from the orbit, that the eyelids could hardly cover it, and it was manifestly directed towards the temple.

It could easily be seen, that the cause of this exophthalmos was not in the eyeball itself, for it was evident that its volume was not in the least increased, and except the expanded star-

ing pupil, it exhibited no deviation from its normal condition. The cause of this affection lay in a tumour, which sprung from the inner angle of the orbit, was uneven, hard as bone to the touch, and could be felt passing deep into the orbit. This tumour did not appear to be accurately circumscribed, nor did it project beyond the superciliary arch, but extended to the back of the nose; its coverings appeared healthy, with the exception of a little sinus opposite the situation of the lachrymal sac, out of which a small quantity of thin purulent fluid could be expelled on pressure. The probe being introduced into this opening, did not afford any satisfactory information to assist our diagnosis.

Under the idea that the case was one of enlargement of the bone, and periosteum, caused by rheumatism, of which the previous pain in the head was an indication, I caused the decoction of Zitmann to be administered, that medicine having often in similar cases proved very useful. As this exercised no effect whatever on the tumour, I yielded to the wishes of my patient, and proceeded on the 25th of January, 1837, to operate. Having determined, if possible, to lay bare the tumour, and endeavour to remove it without injuring the eye, I made an incision from the inner angle of the eye to the bridge of the nose, separated the eyelids, laid bare the tumour, and in order to try the nature of the tumour, took a small sharp chisel, and striking it a few light blows with a hammer, I perceived that it was not so hard or firm as I had supposed from feeling it. I removed a portion about the size of a silver groschen, (less than an English sixpence) and found that it was healthy bone. The patient who had reclined his head against the breast of an assistant, now bent it a little forward, when immediately a large quantity of a peculiar fluid poured out of the opening which had been made. I caused him to bend more forward, and now a still greater quantity flowed out at intervals in streams, so that I was enabled to receive four ounces in a cup. It was of a dark brown colour, and thick consistence, felt like the albumen of an egg, had no particular smell, and certainly not that of pus or matter. I could now pass a slightly curved probe three inches deep directly backwards through the opening I had made, and could move it upwards, and in various directions, without causing the patient much pain or feeling any rough or diseased places in the bone. In order to discover how large the cavity might be, out of which this fluid had been evacuated, I injected warm water into it, the pouring in of the stream of which could be distinctly heard; when nine ounces had been injected, the water began to flow out tinged of a brownish colour.

. It was now self-evident that this tumour was caused by the collection of fluid forcing the bones of the orbit forward from behind ; wherefore, extirpation being impossible, I contented myself with bringing the soft parts together, and keeping a little plug attached to a thread in the opening.

The first and second days succeeding the operation a very violent inflammatory fever set in, with excruciating pains in the forehead, obliging me to have recourse to powerful antiphlogistic measures. After that, I tried stimulating injections into the cavity of the tumour, but I was obliged to give them up on account of their producing erysipelatous inflammation of the face. Injections of lukewarm water were the only ones which could be endured, and these sometimes escaped through the left nostril. The eyeball retired by degrees back to its original situation, but it still preserved its abnormal direction outwards, and the vision was lost. After some time, the patient used to wash out the cavity with injections, and, when he had emptied it, close the orifice with a bit of adhesive plaster. It still remains doubtful whether this was a case of enormously enlarged sphenoid or frontal sinus.

Blennorrhœa Urethræ, accompanying the Teething of Children.

There is a case of this kind recorded in the *Medicinishe Zeitung* for Nov. 1838, by Dr. Mehliß of Liebenwerda, which bears so strong a similitude to a case given by John Hunter in his *Natural History of the Teeth*, that we thought it worthy of insertion.

The child of a shoemaker, two years and a half old, became ill on the 21st February, apparently of catarrhal fever, for which my advice was sought on the 26th. The fever was high, but the cough slight; the abdomen tense and hard, the tongue coated, and the bowels costive; much thirst, but great dislike to food, and it complained of pain in passing water; the urine was turbid like whey, and deposited a whitish yellow sediment. On examining the virile member, I saw with astonishment that the prepuce was red, and that a puriform fluid issued from the orifice of the urethra, the lips of which were swollen and inflamed, just as is usual in common gonorrhœa. The parents of the child had not remarked this discharge, and did not know how long it had continued. The habits of life in which both parents and child lived did not admit of any suspicion being entertained of this being a venereal affection, and I was of opinion that this blennorrhœa might be caused by the irritation of worms in the intestinal canal. Consequently, I ordered aperient clysters, containing infusion of santon seeds to be thrown

up, and also gently opening medicine to be administered, which caused abundant evacuations, but without any worms being discharged. After this, both fever and cough disappeared, the appetite again returned, and the discharge from the urethra diminished. On the 29th of February, the child's parents remarked that the right canine tooth in the upper jaw, the only one of the milk teeth which had been deficient, had just burst through the gum. Some days after this, all symptoms of disease disappeared, as well as the discharge from the urethra, and the child was as healthy as before.

In John Hunter's case, the child, two years' old, was affected with pain and difficulty in passing urine, and genuine pus issued from the urethra. Hunter thought that the child was infected with venereal poison, and suspected the nurse. However, he remarked one unusual circumstance in gonorrhœa, that the affection was sometimes less, sometimes disappeared altogether, and then returned. At last it was discovered, that with the appearance of each new tooth the affection came on, and this with so much regularity and certainty as to leave no doubt of its being merely a sympathetic inflammation.

Dr. Krüger Hansen, in Gräfe's and Walther's Journal, vol. xxiii., speaks very determinedly, after his own straightforward manner, against trepanning and severe antiphlogistic treatment in injuries of the head. We are not amongst those who would wish the trepan to be employed in every case, with the mere chance of relief, and we will grant that it is employed sometimes when the patient is beyond all rational hope of any expedient being of the slightest service. Still cases are fresh in our memory, in which, were it not for the use of the trepan or of Hey's saws, those most useful modifications of the more antique instrument, lives would and must have been sacrificed in consequence of very slight pressure exercised on the doubly pulsating surface of the brain. The peasants in that part of the country where Dr. Hansen has practised for twelve years, are in the habit of fighting with sticks, stones, knives, &c., and must have afforded him a very large field of inquiry into the nature of injuries of the head, and it is from watching the powers which nature is capable of exerting, when undisturbed by the intrusive operations of art, that he has come to the conclusion that surgeons interfere too often in such cases, and mar the good effects which gentle treatment and the vis medicatrix nature would otherwise produce. "I have seen," says Dr. H., "cases of severe injuries of the head, with fracture and depression, in which the brain might be supposed to have suffered much, brought to a favourable

termination, without the slightest impairment of the bodily or mental functions, by means of a gently antiphlogistic treatment and the internal and external use of arnica."

We subjoin one case from Dr. H., and several others from various sources :

Emil Pr., a merry boy of three years old, fell through a step-ladder from a height of nine feet, on his head, on a paved floor, striking the temple on the left side against a projecting stone ; he was taken up senseless, and entrusted to my care. A portion of skin of the size of a shilling was bruised on the side of the forehead, and a deep depression as large as a crown piece existed in the same place, and the bones gave no resistance on pressure. The child soon began to recover himself, yet he continued to have an inclination to sleep, and despite of being roused frequently, always relapsed into a state of stupor with snoring respiration, and vomited frequently. His countenance was pale and cold, the pupils expanded, pulse small and slow ; from time to time drops of blood fell from the nose. The symptoms of pressure on the brain, from depression of the skull and extravasation of blood, were not to be mistaken, without taking into account the other injuries.

Cloths kept wet in a solution of vinegar, water, and salt, were constantly applied to the shaved head ; every third hour a vinegar enema administered, and every hour a tea-spoon full of a solution of nitre.

Next morning the child shewed more intelligence, less disposition to sleep, and the depression of bone was much elevated, but there was great heat in the head, so that the coverings were obliged to be removed every five minutes. On the fourth day the child got up and began to go about ; there was much less heat in the head, the pulse hardly at all excited, the injured part of the scalp began to granulate, the bones gave more resistance, but were very tender to the touch ; appetite returned, with calmer, softer sleep. In place of the salt lotion, a cold infusion of arnica flowers was kept applied to the head, and a weak infusion of the same was administered internally. In fourteen days the injured part was perfectly healed, and no trace remained of there having existed a depression of the bone.

CASE II.—A boy, æt. 8, at Soldin, coming too near a horse, received a kick on the right side of the head, causing a wound of a sickle shape, four inches long, and a fracture of the parietal bone, an oblong piece of which was so much depressed that its external surface was on a level with the internal surface of the bone surrounding it ; this piece of bone was about an inch and a half long, and three-fourths of an inch broad in its middle

part; one end of it was still held in firm connexion with the inner table of the skull. As there was no possibility of elevating the depressed portion of bone, except by trepanning, we consulted about the propriety of this operation, but did not perform it, because we found no indications demanding it, as the injury did not bring the slightest affection of the brain along with it. The physician and surgeon to the district, Holtzhausen and Schlüter, were contented, under these circumstances, to fill the gaping wound with charpie, and to keep the head covered with a bladder filled with snow. It was not thought necessary to practise venesection, as a good deal of blood had been lost after the injury. He was given, for six days after the accident, calomel and an infusion of arnica flowers with saltpetre, and the cold applications kept to the head continually. No inflammatory reaction succeeded to this treatment, and all the functions went on undisturbed. Profuse suppuration occurred at the wound, and a discharge of a pale red fluid came from the fragment of bone every time the wound was dressed. Dry charpie dressings were still continued up to the fourth week, the suppuration being very profuse, and then the piece of bone began to exfoliate. It was removed in small fragments by degrees, and flourishing granulations sprouted from the edges of the bones, which, after all the pieces of bone had separated, closed the wound in the bone, so that it was perfectly cicatrized in ten weeks. During the entire period of treatment, no sign of any affection of the brain appeared.

CASE III.—*From Dr. NOCKHER of Seigburg.*

A boy, æt. 13, of full habit, living at Niederkassel, fell from a height of fifteen feet on his head, upon a paved floor, and was brought home senseless. Next day he was seen by Dr. Nockher. He found him in a deep stupor, having frequently vomited, face red, and the pulse full and slow. He was unable to awaken him from his lethargy. A piece of bone the size of a shilling could be felt depressed in the middle of the left parietal bone, through the uninjured though somewhat swollen scalp.

A crucial incision was immediately made over this place, which shewed that the parietal bone was broken into three or four pieces, and that in the centre, where the angles of the fractures met, it was depressed to the depth of three or four lines. Venesection, leeches, nitre, and sulphate of soda were ordered with cold envelopes to the head. Dr. N. having come from a distance and being unprovided with the proper instruments, determined to return the next day to perform the operation. Returning the next day (third after the injury) he found the boy

perfectly returned to his senses, and to his astonishment the depressed bone mentioned above returned to its original situation. Trepanning was now deferred untill pressing symptoms might demand it, and the antiphlogistic treatment was continued. After eight days the boy felt himself so well that he could not be kept in bed; and in fourteen days the incision which had been made was perfectly healed. No exfoliation took place, and not the slightest ill health had occurred from that time to the period of writing this statement, a space of three months and a half.

CASE IV.—A carpenter of Ringenwalde in the circle of Templin, whilst engaged in building a well on the 5th December, 1836, fell head foremost down thirty feet on the wall at the bottom of the well, and remained a long time lying in the water, which was shallow until discovered and brought out.

When Dr. Wittzack, the district physician, arrived, the unfortunate man lay in a senseless state. On the posterior and upper angle of the parietal bone, there was a tumour the size of a duck's egg, which was very hard to the touch, and from which he appeared to suffer much when touched. On this swelling being opened a quantity of blood flowed out, the patient recovered his senses, and a fracture of the skull appeared, or rather many fissures diverging, from one point, apparently engaging only the outer table of the bone, as no mobility could be felt in the middle pieces. One of these fissures extended to the middle point of the parietal bone, and was wide enough to admit of a probe being passed through.

Besides this the patient complained of severe pain in the chest, spit a good deal of blood, and his breathing was difficult. Blood was frequently drawn, cold washes applied to the head, and internal antiphlogistic medicines had recourse to. The part of the skull which had been exposed was dressed lightly with charpie, and the patient, in order to be near medical care, was carried carefully to Templin. There he continued to improve gradually, no symptom of disturbed mental powers exhibited itself. Many fragments of bone came away after this from the wound, the pains in the chest gradually diminished, and recovery ensued in the space of six weeks.

CASE V.—*From Dr. SCHWARTZ, Regimental Surgeon.*

A non-commissioned officer in the 2nd squadron of the 12th Hussars, at Eisleben, fell in the riding-school, on the 2nd July, and was struck on the head by his horse. He remained lying senseless. Being immediately brought to the hospital, there was discovered, on examination, a wound behind the right ear, an inch and a half long and about the same breadth, with de-

pression and fracture of a portion of the squamous part of the os temporis of the right side, and also of the posterior inferior angle of the parietal bone. There were no loose portions to be felt. A quantity of blood flowed from the right ear and the mouth.

When the wound was perfectly cleansed, and simple dressings had been applied, the patient was bled largely, given a nitrous potion, a stimulating enema, and cold applications were made to the head. It was twenty-four hours after the accident that Dr. Schwartz first saw this patient. Consciousness had returned; there was but little fever, and slight pain present, although the tumefaction of the scalp and of the temporal muscles was considerable. No symptom of irritation or pressure on the brain was present, on which account Dr. S. objected to employing the trepan, the use of which would have been accompanied with great difficulties on account of the deep situation of the injury behind the ear. Next day, however, prominent symptoms of irritation of the brain, and the pain in the right side of the head, and particularly in the ear, had increased very much. At the same time, from the pharynx sympathising, there was difficulty of deglutition. He was again bled largely, and sixteen leeches were applied to the head, the other treatment continued, by which means the dangerous symptoms were much diminished. Next day but one, similar symptoms appearing, the patient was again bled. Suppuration came on gradually in the wound, and much purulent matter was discharged through the ear, after which the sensation of throbbing in the head, which the patient complained of, particularly when bending forward, very much diminished. An abscess which had formed on the right side of the neck, and which communicated with the ear, was opened, and a large quantity of matter given exit to. The suppuration in the injured parts, with the free flow of pus from this abscess, in conjunction with sparing diet and the administration of medicine, caused all unpleasant symptoms to abate. From this time forward, the powers of mind were perfectly undisturbed, fever and pain gradually ceased, appetite returned, with sound sleep. From time to time little loose fragments of bone separated from the wound, after which it rapidly healed, and the patient was perfectly well three months after the accident. At present (the latter part of the year) there is still some irritation about the injured side of the head, but all the functions proceed undisturbed.

CASE VI.—A non-commissioned officer of the 7th Ulan regiment fell with his horse, and struck his left temple so violently against the pavement that he was found senseless, with

much blood flowing out of the left ear and from the nostrils, and the conjunctiva distended and blue coloured from extravasated blood.

Venesection to a large amount, the application of ice to the head, and other antiphlogistic measures, had the effect of restoring his senses in the space of twenty-four hours. There was deafness of the left ear, fixed pain in the left half of the head, and vertigo with sickness of stomach and vomiting, on which account a strenuous antiphlogistic and purgative treatment was continued during many weeks, until all these evils yielded to a discharge of foetid pus, and some time afterwards a bloody serum, free from all smell, which issued from the ear. In six weeks he was discharged cured. Some time after, the weather becoming sultry, the vertigo and headach returned, and the deafness, from which he had almost perfectly recovered, increased. These were but transitory symptoms, and in a few weeks more he made no complaints, and resumed his regimental duties in perfect health.

CASE VII.—*From Dr. SCHMIDT, of Zielenzig.*

A schoolmaster named Gilde, at Neuwalde, in the circle of Sternberg, æt. 60, whilst endeavouring to hold a cow which had become savage, was dashed by it upon his side, and fell with so much violence with the back of his head upon the ground, that he remained a long time stupified, and was able at length with difficulty to stand up. He complained of a dull pain in the back of his head; he roused himself, however, and was able, despite of slight wandering from his head being engaged, to give his scholars their lessons.

Six weeks after this accident, this man began suddenly to confound words and thoughts, to forget what he was thinking about, and, when on the point of speaking, forget what he was going to say; whenever he attempted to walk he fell upon the left side, and even whilst sitting he bent involuntarily to the left.

On the 27th of November, his sons brought him to Zielenzig to get the advice of Dr. Schmidt. On the way thither, the patient talked much nonsense, but knew that it was such. He knew the physician when he saw him. Besides the symptoms mentioned above, his countenance appeared much excited, his eyes were red, and the left one was pouring forth tears continually. His speech was firm, but he mingled his ideas strangely together when he talked of his condition. He could not sit quiet, and still less walk without aid, but fell every time he attempted it on the left side. His pulse was full and somewhat quickened, but not hard; bowels confined. The back of the head appeared somewhat swollen, but was not painful to the

touch. No medical treatment had as yet been employed. He was immediately bled largely, and an aperient powder administered. The bowels were freed, and he felt easier. The night was passed in delirium, and the following morning eight leeches were applied to the neck, and he was given two grs. of calomel every two hours. On the evening of this day he was manifestly better; he did not now fall on the left side; the confusion of thought and the pain in his head had decreased considerably; the pulse alone was much excited. The doses of calomel were now continued every four hours; and in the intervals a solution of saltpetre was prescribed. On the morning of the 29th Nov. the scene changed. The physician found his patient in a state of coma, delirious, with flushed countenance. Bleeding was again had recourse to, calomel given oftener, and cold envelopes applied to the head. Next day his condition was a little improved; mercurial ointment was rubbed into the back of the head, and infusion of senna with sulphate of magnesia was given to relieve the bowels. When the medicine had acted, the man recovered his senses, had some calm repose, and all his symptoms were improved.

On the 2nd of December the patient felt so well, that his physician acceded to his wishes, and permitted him to return home, having prescribed a moderate diet and careful management. The invalid still improved, and on the 30th December he visited Dr. S., in order to shew that he had recovered. He appeared as lively and strong as before the accident. The back of his head appeared to be a little prominent, but was not painful.

This case is worthy of remark, on account of the symptoms of cerebral engagement occurring for the first time six weeks after the injury had been received, as well as for the recovery being effected so quickly.

Dr. S. is of opinion that there was a fracture of the back of the skull.

To so many cases successfully treated without operation, we will add one, in which, although the result was fatal, still operation would have been of no avail.

CASE VIII.—Leon Koralewski, a shoemaker, was wounded on the evening of the 30th of April, at Gnesin, by the blow of a stone which struck him in the temple. Dr. Rutsch, Surgeon of Batallion, who was called to him at 8 P. M., found him sitting, with blood running down the right side of his face. On the lower part of the temple, in the whisker, there was a small wound, into which a probe could be passed directly. The physician ordered cold washes to be applied. Being called to him again at 7 A. M. next day, he found the wounded man with staring

eyes, snoring respiration, like one suffering from a recent paralytic seizure. He immediately abstracted a large quantity of blood from the left arm, dilated the wound, had the cold applications continued, but, notwithstanding all, the man died at eight o'clock in the morning.

The dissection exhibited a very severe contusion of the right temporal muscle, which looked very like a brownish black coagulum of blood, a fracture of the right zygoma, and also a fracture of the squamous portion of the right temporal bone, which was thirteen lines long, twelve lines broad, and having nearly an oval figure. From this there was a roundish fragment of bone broken off, and driven in about half a line. On removing the skull-cap, between it and the dura mater, in the part corresponding to the fracture, was a very extensive extravasation of black coagulated blood, amounting to from four to five ounces at least.

This extravasation had exercised so much pressure on the dura mater and the brain lying beneath it, that the brain had completely lost its rounded form, exhibited a flattened appearance and was removed from the bone eight lines, which interval was perfectly filled with the coagulated blood.

The severe contusion, the two fractures and the concussion which the brain had received, were sufficiently dangerous circumstances, yet the suddenness of the death was evidently attributable to the pressure exercised on the brain by this extensive extravasation.

The question now arises, could not the life of the sufferer have been saved by the speedy removal of this extravasation? Dr. Rutsch answers this question in the negative, and his reasons are, that a portion of the extravasated blood lay on the base of the cranium, and could not easily be removed, and it is likely that the bleeding from the torn vessels of the dura mater had ceased alone on account of the coagulum serving as a kind of plug, and there would have been great likelihood of the vessels bleeding again if it had been removed. Wherefore he gives it as his opinion, that the injury would have been fatal under any treatment.—(*From the Medicinische Zeitung*, 1838, No. 45.)

Professor Otto, of Copenhagen, relates a case of fracture of the skull, in which, although the trepan was used six months after the accident, still, as it shews the powers of nature to be sufficient to effect a cure when recovery is possible, we think it will be properly placed here.

CASE IX.—A lad of 18 years, fell from the height of six ells on the pavement, on the 23rd of July, 1837, and received a contused wound on the head many inches wide, with denuda-

tion of the skull, and tumefaction of the integuments; to these were added vomiting, a slow pulse, and a state of coma.

Venesection, laxatives, and frigorific fomentations were employed, with dilatation of the wound, under which treatment the condition of the patient became gradually improved, yet when, on the 27th of August, he left the hospital, he was unable to see with the right eye, or to hear with the right ear. For many days during his treatment, a watery fluid had issued from the ear. In the beginning of 1838, he again sought assistance at the Hospital. There were three fistulous abscesses on the head, one of which was so large, that a carious bone could be seen with an aperture in it the size of a pea, through which air and pus flowed with every movement of the brain, and particularly whenever the patient coughed. Carious bones could also be felt through the granulations of the other two tumours with the probe. The tumours were distant about an inch.

A long transverse incision was made, through which all the fistulæ in the scalp were united, and the bone appeared carious for a length of three inches by one and a half inch broad. The whole piece was a little loose. The trepan was applied, and two circles of diseased bone were removed; four days afterwards, the remainder of the carious bone was removed with the forceps. The granulations beneath the bone which had been removed, were abundant and healthy, and the dura mater only discoloured in the one spot opposite the aperture in the bone for a space of ten lines diameter.

The entire space cicatrized gradually, and the patient was discharged on the 10th of March. The yet thin cicatrix, was covered with a plate of zinc.

Dr. Guldberg, who was the attendant on this case, regards it as an example of the very extensive caries which the brain may sustain, without permanent injury to its functions; and remarks, that without doubt, there was in this case, a very extensive fracture, which it is likely, extended to the base of the cranium.—(*From Froriep's Original Notizen*, February, 1839.)

These cases, all of which must be allowed to be extreme ones, go a great way towards proving, that if the brain is capable of sustaining the first shock without the extinction of life, it will, in all probability, be able to sustain a much greater degree of pressure than is commonly supposed, under steady, but mild antiphlogistic treatment, and useful deductions may be drawn from them with regard to the degree of confidence which is to be reposed in the curative powers of nature.

Every practical surgeon will allow, that there is no operation more speculative or more likely to fail in being success-

ful, than that of trephining, in order to evacuate an effusion, when its precise locality is not known, and every judicious and correct feeling man should prefer to give his patient every chance of recovery, before having recourse to an operation, which, generally speaking, keeps him a patient for the remainder of his existence.

Researches into the Nature of Purulent Matter issuing from the Nasal Cavities of Glandered Horses and Dogs.
By Rossi, Professor of Surgery, and President of the Medico-Chirurgical College at Turin.

The question with respect to the principle of contagion in certain diseases, miasmatic as well as contagious, is one of the most important, and at the same time one of the most obscure in all pathology. From the earliest ages to our own times numerous hypotheses have been formed on this subject, yet unfortunately, there is not much more known now, than there was a thousand years ago.

The application of chemistry, which has solved so many weighty problems in medicine, has in this matter been almost powerless. The late researches of M. Bousingault and some other experienced naturalists have led to the discovery of certain matters which render impure the atmosphere in many localities, where miasmatic diseases prevail; but this is far from discovering the actual procreative matter of most diseases, and particularly of contagious ones. The experiments which have been made for this purpose, have had for their object, rather the manner of communication of disease, and the examination into their peculiar symptoms, than any research into what might be the real material agent of their similitude of affection, or such researches at least have given no positive result.

M. Rossi has been a long time engaged in researches of this kind; convinced that the communicating principle of contagion belonged to the imponderables, because it resisted all action of the ordinary chemical reagents, M. Rossi thought, that the separation of the poison of disease might be obtained by means of the galvanic pile. He had published a proposal of this kind many years ago, in the *Annali Universali di Medicina*, under the title "Researches on Miasma, in the Proceedings of the Academy of Science at Turin." On the present occasion, the object of research was the matter of glanders in the horse and dog, in which he was assisted by his colleague Lavini, Professor of Chemistry.

Having arranged a galvanic pillar of fifty pair of plates, he placed between each pair a piece of linen which had been moistened in the nasal discharge of a glandered horse. The two poles of the battery were then brought into communication by metallic conductors (gold wire,) and their ends passed into distilled water contained in an eudiometer.

Two hours had hardly passed since the battery was set in action, when a very offensive, unendurable smell filled the atmosphere of the place where the experiment was tried, proceeding from the apparatus, and even extended to the neighbouring houses.

When M. Rossi had held the conductor in his hands, he suffered so stupifying an effect, that his knees bent together, and he sank to the ground. M. Lavini, also, who hastened to his assistance, suffered from vertigo. This effect of the power of the current arose from some other cause than from the simple galvanic fluid, for the same battery charged as strongly as possible, but not containing the fluid of glanders, had never produced upon him similar effects. Eighteen hours after the currents had been set in action in the eudiometer, no more bubbles of black gas arose through the water, or fixed themselves to the glass sides of the instrument. The fluid in the eudiometer was then examined. The water smelt very strong of the glanderous matter from the battery. The gases were carefully examined by Messrs. Rossi and Lavini, and these gentlemen determined that the prevailing principle in them was cyanogen, which, united with hydrogen, would form prussic acid. To this agent, both the learned experimenters refer the effects M. Rossi suffered when he received both the galvanic currents.

There is, therefore, in the poisonous substance of glanders a material principle to be found, cyanogen, which resists chemical analysis, but which is brought to light by the agency of the galvanic battery. When this principle enters into the blood, no matter how, and unites with its hydrogen, a powerful poison, the prussic acid, is formed. The action of this acid produces the symptoms of poisoning which animals exhibit which are contaminated by glanders; and it is to the action of this same cause that the effects are to be attributed which many persons exhibit after having eaten the flesh of oxen which were diseased with glanders.

Mr. R. mentions the case of a butcher in Turin who was affected with all the symptoms of glanders, and who died of it, caused by having flayed an ox which had the disease. Leeches which were applied to this man died a few moments after, and the small quantity of blood which they had drawn was sufficient to kill other leeches very quickly.

Not satisfied with these results, M. Rossi succeeded in producing glanders in healthy animals, not by inoculation, but by the introduction of glanderous nasal mucus into the digestive organs. In this experiment he succeeded perfectly in dogs, having remarked that the disease develops itself with the same symptoms as in the horse, and is contagious from one dog to another. Regarding the disease then as poisoning by prussic acid, M. Rossi states, that he has succeeded in neutralizing its effects in dogs, by causing them to inhale oxygenized nitrous acid gas, or chlorine. The same means is also recommended to purify the stalls of glandered horses.

We have to regret that the details of M. Rossi's experiments have not yet been published ; but, even supposing that they were proved beyond a doubt, yet would they not be sufficient to prove that glanders is nothing more than hydrocyanic acid, or rather cyanogen ; for, if such were the case, the converse of the proposition would also be true, and glanders would be produced by the exhibition of cyanogen or prussic acid to living animals. This we know is not the case.

Some other very curious experiments are recorded by the same author, who has made use of the Voltaic pile, charged with corrosive sublimate, to convey the galvanic streams to persons who were suffering under chronic syphilitic affections, which resisted the use of mercury in every other form. Eleven persons were submitted to this experiment. Some of these were afflicted with syphilitic ulcers which had withstood all ordinary treatment most obstinately. Others were children whose bodies, from their birth, were covered with pustules and crusts ; others again were adults affected with tabes syphilitica.

The pile being charged with a solution of corrosive sublimate, and directed into the organism of the patients, produced the following effects:—The current being directed against the ulcerated points, then became inflamed after the first galvanization, suppurated, assumed the appearance of primitive chancres, and then cicatrized rapidly. The application was renewed, and a radical cure effected. In the children under the influence of these currents, the skin became dry and assumed its natural appearance, and a radical cure was quickly obtained. By the wasted patients who could not bear mercury by the mouth or even in frictions, the galvanic currents were well borne, and the patients quickly cured.

These are only short abstracts from the remarkable results which M. Rossi, and, before him, one of his pupils, M. Fenolis, have obtained. However, the account is very imperfect ; for neither is the dose of sublimate employed in the pile, nor the length of time which the patient was submitted to its influence

mentioned ; the form of the conductors, and several other points with regard to their application are also omitted,—details which would have proved useful to those who may be inclined to renew these much lauded experiments.

SAVIGNY on luminous Appearances in the Eyes.

M. Savigny, member of the Academie des Sciences, has for fourteen years suffered from such violent neuralgia in the eyes, that he has been constrained to remain in perfect darkness for the whole of that period. This darkness does not appear such for him, for the appearance of light, which unfortunately has a continual source in his eyes, incessantly fills the whole space. Lately, M. Savigny has made the following communication to the Academy on this subject :

Every one who passes his finger on the ball of the eye, near the inner angle, produces in the dark a little circle of light which appears at the external angle. These luminous appearances (phosphoric) are from eight to ten lines in diameter, never appear of themselves, and always are seen about the edges of the eye. Those seen by M. Savigny appeared under three forms, each of which assumed other forms. In the first, the appearance was circumscribed, circular, simple, or manifold ; in the second, like a torn or shredded piece of cloth, or as a long band on the upper border of the eye ; in the third, the appearance consisted in a single circle of many feet diameter, formed by a simple line parallel to the edge of the eye, and which at a certain distance appeared to surround the entire countenance. Seven years after the access of these appearances, in the year 1832, they increased much in intensity with regard to size, conformation, multiplicity, and brilliancy. The circular appearances had sometimes a diameter of from six to ten inches, were simple or festooned on their borders, sometimes of the colour of raw silk, or white with silver or brilliant golden borders, sometimes yellow, orange, red, or black, with a broad border of gold or silver ; sometimes they had the appearance of many concentric circles, with concentric undulations of the greatest fineness and most splendid brilliancy. The largest and most brilliant appearances were on the marginal parts, and frequently terminated above in a kind of cupola. The more crowded the figures were, the more they lost in splendour, colour, and distinctness of outline. At first they only appeared from time to time, but now almost daily, and it only required simple contraction of the eyelids to produce them. Their size, form, colour, and brilliancy depended for the most part on the altered position of the organ. When this phenomenon is produced by the pressure of

the finger, the way in which the pressure is exercised has an influence on the kind of appearance. When the finger is pressed from the inner angle of the eye towards the outer, the luminous appearances are seen in exactly a contrary direction, and appear on all points of a large curve above the eye, which sometimes reaches as far as the other eye, but generally only reaches as far as the middle line. If, along with this pressure, a retrograde motion is made, the appearances are increased more or less, but they rise or sink in a quick and confused manner on the curve we have described. In general, when the pressure is firm, the appearance is larger, more regular, and more vivid; when the pressure is uneven, wavy, and irregular. The luminous appearances generally begin and end with the pressure; but applying the pressure very frequently diminishes the power of producing these appearances. They always made their appearance when M. Savigny, wearied with the intolerable pain caused by congestion, pressed upon the bandage which covered both his eyes, in order, by pressure, to assist the eyelids in effecting the emptying of the vessels.—(*Arch. Gen. Août, 1838.*)

GUYON, *on living Worms under the Conjunctiva of the Negro.*

Blot of Martinique has, like Bajon of Cayenne, and Mongin of St. Domingo, seen two worms in active motion under the conjunctiva, which he removed by incision. One of these, which was sent to M. Blainville, was thread-shaped, thirty-eight millimetres long, with a black protuberance adapted for suction.

Bajon remarked (1768) a serpentine motion of a worm in the eye of a negress, which, without giving pain, caused constant epiphora. When an incision was made, the worm went to another part, and was obliged to be secured with a small forceps. In a second case (1771) the conjunctiva was more inflamed, the patient refused to submit to operation. In Blot's case (1828) the worm lay on the outside of the eye, and sometimes turned round a portion of the corner, causing stinging pains and nervous symptoms arising probably from fear. The patient, an African negress, was unable to tell where she came from, or whether her fellow-country people were subject to this disease. A surgeon at Mompox (New Granada) offered to extract this worm, but his services were refused. The worms found by M. Guyon were not of the species termed *Filaria Medinensis*, which are found in abundance amongst Africans, and could not be secured by the forceps.—(*Zeitschrift für die gesammte Medicin*, Feb. 1839.)

In the London Medical Gazette for Aug. 1833, there is given the case of a little girl, six years old, under whose conjunctiva, and resting on the sclerotica, there was found a *cysticercus cellulosus* perfect in all its parts.

New Method of extirpating the Tongue.

Sr. Reynoli, Professor of Surgery at Pisa, has communicated a new plan, which has succeeded in his hands, for removal of the tongue, in the *Bulletino delle Scienze Mediche di Bologna*. We give it in few words:

A young girl, æt. 14, of scrofulous constitution, and who had not yet menstruated, was received on the 29th of April, 1838, into the clinique of Prof. Reynoli. Her speech was so much impeded, that it was easy, before an examination was made, to discover that the tongue was diseased. There was a tumour, the size of a hen's egg, on the back of the tongue, which extended from its base to its anterior third, and which filled the entire of the posterior part of the mouth, and covered the larynx. The posterior parts could not be accurately defined; the external border of the tongue was free for the space of two lines. The finger introduced deep into the mouth told that the tumour ceased on the basis of the tongue; it involved the entire thickness of the organ, and projected much on the left side at the os hyoides; its surface was covered on many parts with little projecting bodies, and bled frequently, particularly during mastication, and when it was touched by the fingers. The blood often sprung out as if from an artery; it is uneven to the touch, hard, but not very, and not painful when touched. Mastication, deglutition, speaking, and breathing, were so difficult, that the patient was often threatened with suffocation. The powers of comprehension in this girl being limited, and speech difficult, much could not be learned with regard to the origin of the tumour, and all the information which was obtained amounted to this—that it was two years since the first difficulty of speech was perceived.

Although there was no feeling of fluctuation, still it was thought expedient to make an exploratory puncture with a cataract needle, from which nothing came but blood and water.

On the 18th May the patient was placed upon a stool near a window, her head being supported by, and held against the breast of an assistant. Sr. Reynoli then made an incision into the skin of the neck with a convex knife, which extended from the chin to the os hyoides in the median line. He then made two other incisions, commencing at the chin end of the first incision, one to the right, the other to the left, and carried them back in the direction of the base of the under jaw as far as the

anterior border of the masseter, leaving the facial artery uninjured. The two flaps formed by this T formed incision, were, with the platysma myoides, dissected back, and the larger muscles beneath brought into view. A straight bistoury was now passed through the soft parts immediately behind the symphysis menti, and the attachment of the genio-hyoid and genio-glossus muscles were severed, along with the mucous membrane of the mouth, so that the point of the knife came out behind the incisor teeth. A buttoned bistoury was now passed through the same orifice from below, and carried in the direction of the rami of the jaw, first right and then left, cutting through the anterior insertions of the digastrici and mylo-hyoid muscles and the mucous membrane as far as the anterior arch of the palate. Three or four arteries were now tied. The tongue was not now drawn back as the operator had expected. When these incisions had been made, the floor of the mouth was widely opened.

Sr. Reynoli now seized the tongue with the hooked forceps of Muzeur at its point, and drew it downwards through the opening which had been made under the chin, until the whole of the tongue and the tumour lay on the anterior part of the neck. Laying the forceps aside, and fixing the tongue with the hand, it was drawn downwards and outwards till the entire of the tumour came into view. Its basis was then surrounded with many ligatures to guard against hæmorrhage from the lingual arteries, although there was no difficulty in tying them when thus isolated. To effect this purpose, a long curved needle was made use of, which was passed through the mass of muscles to the left side, formed of the cut parts of the mylo and genio-hyoid muscles; this included the lingual artery. A second ligature was brought by the posterior part of the tumour surrounding the substance of the tongue opposite the os hyoides. The lingual artery on the other side was secured in the same way.

When the entire circumference of the tumour had thus been surrounded by ligatures, the part on one side of the first ligature was removed by little clips with a scissors, so that any vessels which might have been opened could have been tied at once; it was not found necessary to tie any artery, and the tumour was removed without difficulty. A slight application of the hot iron was made to the os hyoides, in order to cause a slight bleeding to cease altogether, which came from that part when the ligature close to it was cut across.

The stump of the tongue was now re-introduced into the mouth. Not a drop of blood got into the glottis. The external wound was kept partially open to facilitate the discharge of matter; the ligatures were allowed to hang out; all the

other edges of the wound were united with sticking plaster, compresses, and a bandage.

The part removed comprised the whole of the tumour, and nearly the whole of the tongue. The former was of a spongy nature, white, and similar in appearance to scrofulous tumours.

After the operation the patient was ordered to keep small pieces of ice in her mouth. Feverish reaction was very violent; she was bled. On the fourth day the bandages were renewed; suppuration healthy. On the eighth day the wound was healing fast. On the 3rd July the floor of the mouth was perfectly healed. She could swallow food, and drink as well as if the tongue were there. The parts about the os hyoides are remarkably hypertrophied, and replace, in a great measure, the functions of the tongue. She is able again to speak tolerably plainly, and much better than before the removal of the tumour, and has become fat and fresh-looking.

Description of an acute Case of Glanders in the human Subject, from the Clinique of M. Husson. By M. RIVET.

On the 29th September, 1838, Dondelignère, æt. 25, entered the ward St. Bernard, in the Hôtel Dieu. He was a strong and very muscular young man, of sanguineous temperament, and had been employed in the establishment of "Dames blanches," (hackney coaches) as an ostler, since the 15th of July.

When questioned as to his former health, he stated that he never had been affected with syphilitic or exanthematous diseases. When influenza was epidemic he had suffered from slight bronchitis, which went away of itself.

On his entrance into hospital he stated that he had been in perfect health on the 16th of September, and had performed his usual avocations without feeling weariness; but that for some time previous he had been teased with a violent cold in his nose. On the 17th, without any known cause, he had a general feeling of illness, and on the next day a very acute pain in the right shoulder; he continued his work till the 19th, but his shoulder became so painful that he was obliged to give up. The following day the feeling of weariness and illness was much increased, and he was obliged to take to bed.

On the 29th, the day of admission, we found him in the following condition:—Countenance very red and flushed; pulse quick and tolerably strong; the skin hot, and the head aching. He complained of lightness of head whenever he sat up. He particularly directed attention to his right shoulder, which was very painful, and much swollen; motion, and handling the an-

terior wall of the axilla, increased the pain. The skin appeared in this part of its natural colour, and the subcuticular cellular tissue did not appear puffed.

The chest sounded clear over its whole surface, dilated itself remarkably when he inspired, and no abnormal sound was heard on auscultation.

The functions of the intestines were going on regularly, and there was no trace of tumours or pustules on the body or extremities. On the 30th, when visited in the morning, the patient exhibited the same symptoms as before. The diagnosis was acute rheumatism of the joint, for which venesection was ordered, with three cups of a tisan of borrago and nitre, and one gr. of opium, in two pills. As there was no alleviation of the symptoms before evening, twenty leeches were applied to the shoulder.

On the night of the 30th September and 1st October, extensive bleeding from the nose occurred, and the handkerchief of the patient was covered with blood, mixed with brown-coloured mucus. The general symptoms appear improved. The blood drawn off the day before was moderately serous, and the clot cupped and buffed.

On the 2nd, he was bled again, and the same medicines continued. In the evening the pain in the shoulder was again very violent; the pulse moderately strong, but quick. On the 3rd, little change; the blood which had been drawn had the same characters as the former, only there was a little more serum. The nasal mucus continues to be brownish, and mingled with a little black blood.

On the 4th, it was remarked that the right arm was very much swollen at the elbow, the skin red, and in the region of the olecranon there was a black spot as large as a dollar, from the centre of which the skin had desquamated. He was again bled, and the arm and shoulder were enveloped in a linseed meal poultice.

5th. Symptoms nearly the same in the morning, except that the pulse was very feeble. At the evening visit, a hard tumour, the size of a nut, was remarked under the right nipple, the middle point of which was marked with a violet spot, also on the anterior part of the left arm there was a large pustule surrounded by a circle of inflammation, like a varioloid pustule. The gangrene on the elbow took me unawares: but these pustules, in connexion with the diseased alteration in the secretion of the nasal mucous membrane, caused me to recognize the error I had committed in my diagnosis, and I now suspected that Dondelignère was affected with acute glanders.

On the 6th Oct. I communicated my fears to M. Husson,

who agreed with me, and advised me to ask M. Blandin to visit and examine my patient. He prescribed a decoction of bark, containing a drachm of the extract, four oz. of Bordeaux wine, and soup. Dondelignère was questioned anew, and stated that for more than two months he had attended glandered horses, and slept in the same stable with them. He assured us also, that since he was employed in the establishment many horses had been slaughtered on account of glanders.

From the 6th, every symptom of our patient was closely watched. The sounds of the heart were normal; the pulse frequent, 112, and somewhat weak; the skin hot and dry. He states that he has no headach, but that he has a feeling of stupefaction whenever he sits up. Countenance is paler than on the day previous; the skin about his nose somewhat yellow; some deafness; answers very slowly, and his countenance shews evidences of stupefaction. There are no sordes on the mouth; the tongue is coated yellow at its basis; its borders are not redder than in the healthy state; no pain in the abdomen, although during the night he had a fluid evacuation. The discharge of brownish fluid from the nasal mucous membrane continued, but as the patient always lay upon his back, it generally passed into the mouth and was expelled by expiration. His breath is very foetid; there is no difficulty of breathing, nor is it accelerated. Nothing abnormal discoverable by auscultation or percussion. A tumour of the size of half a small orange is to be felt on the anterior wall of the axilla, the skin covering which is of a dark red colour, swollen, and harder than the surrounding parts. The swelling extends some distance in the subcuticular cellular tissue, in the centre of which some violet spots are to be seen of different forms. A new tumour has appeared external to the one already existing under the right nipple, and both are united by a hard knotty string.

The tension and redness of the arm and upper part of forearm has not at all diminished. The gangrenous appearance of the elbow is greater, and measures two inches by two inches and a half; its surface is uneven, and deepened by a mesh work; towards the circumference, the epidermis is elevated by a brown-coloured serosity, and more externally the skin is of a dark red colour. Three new pustules have formed on the left arm; but on the breast and on the lower extremities we remarked little red papulæ of from half a line to two lines diameter, and pustules of different sizes without any hollow in the centre, but surrounded by a red areola.

On the 7th, the tonic treatment was continued. In the forenoon, M. Blandin examined the nares, and discovered that the septum was perforated. A pair of curved scissors, which

were introduced into the left nasal cavity, passed with ease into the right. In the evening he was seized with delirium, yet he answered correctly when his attention was drawn. His face is pallid and wasted, and looks more stupified than before. The secretion of the mucous membrane is still the same.

8th. We were told that Dondelignère made frequent efforts to get up during the night ; that the delirium was almost continuous, yet that he still answered tolerably correctly when spoken to. Tongue yellow, with disposition to become dry ; lips and teeth are covered over with a brown sordes ; diarrhoea continues, but has not increased ; pulse still weak, but more frequent (120) ; blisters of purulent matter cover the tumours on the breast ; a large violet-coloured spot encloses the central point of the tumour on the shoulder. Many small ecchymoses have appeared on the left leg and on the forehead.

At the evening visit we found that the right ala nasi was swollen, and its edges were very red. When the alæ were pressed together, a yellowish red muddy serosity flowed out. His breath is very foetid. The chest still sounds clear, but there is a mucous rattle of small bubbles, and on close examination of the sputa the brownish coloured mucosity from the nose is easily to be distinguished mingled with it. The posterior part of the thorax was not examined. Fever continues very violent ; much stupor ; the eyes staring, and delirium continues. The patient experiences uneasy presentiments, and asks if his disease be dangerous, and whether he soon must die ? He has said that his fear arises from his having taken care of glandered horses. There is fluctuation to be felt on the excessively swollen shoulder ; the submaxillary glands on the right side appear larger than those of the left.

In the evening the stupor changed to coma, and the patient died at half-past four, P. M.

During his illness, Dondelignère was visited by MM. Breschet, Honoré, Blandin, Rayer, Cruveilheir, Fouquier, and Michon, surgeons and physicians to Parisian hospitals, and by MM. Bouley, Barthélemy, Le Blanc, and Granet, veterinaries. All these gentlemen recognized in this case symptoms similar to those of acute glanders in the horse, and the pathological alterations observed in the nose were confirmatory of this diagnosis.

M. Rivet went, on the 8th of October, with M. Rayer of La Charité, and Le Blanc, the veterinary surgeon, to the Barrière de la Villette, in order to be convinced that the statements made by Dondelignère were correct with regard to his having charge of a stable containing glandered horses. Not being permitted, on his first visit, to see the stables, M. R. returned again with MM. Bouley and Barthelemy.

From the inquiries made in the establishment, it appeared that Dondelignère was a very unassuming, quiet person, of rather melancholy character; that he slept in a small low bed constructed of boards, which stood in a small stable where generally from seven to eight glandered horses were treated, and that the bed was only separated from the stable by a tarpaulin, and stood under a window which closed very badly. All the other doors and windows opened on the side of the yard.

The veterinary to the establishment now repeated, in presence of MM. Bouley, Barthélemy, Rayet, and Le Blanc all that has been mentioned, and assured us that, during the two last months, twelve horses affected with chronic glanders had been slaughtered there, because the chronic disease, with bleeding from the nose and discharge of glanderous matter, became complicated with acute glanders, and that four at least were put to death on account of acute glanders.

In the written documents of the Register of the *Dames blanches*, it is stated, that from the 30th of July to the 23rd of September, 1833, twelve horses were slaughtered, because they were (*morveux on farcineux*) glandered.

It is right to remark, however, that three hostlers had slept many months, and one of them three years, in this same stable, without shewing any symptoms of illness; but negative instances of this kind are brought forward every day in diseases which every one allows to be contagious.

On the 10th October, at two o'clock in the afternoon, the body was examined in the presence of Messrs. Husson, Breschet, Villermé, Cornac, Cruveilhier, Rayet, Blandin, Patissier, Michon, Deville, Ronal, Le Blanc, Rivet, Burguière, and Vigla. The nasal cavities were examined afterwards by the veterinaries Bouley, Barthélemy, and Lafond. 1st. Alterations in the skin and subcuticular cellular tissue; numerous little knots of from two to three lines diameter were scattered under the scalp; only three appeared on the face. Many pustules were upon the breast, abdomen, upper and lower extremities in different degrees of development. 2nd. On particular parts there were little white papulæ one line in diameter, which, during life, were of a deep red, and over which the superficial layers of the skin were thickened. 3rd. Very numerous prominent pustules, the diameters of which varied from one to three lines. These collections of matter had no core, and the pus lay immediately under the epidermis, and had beneath it a thin layer of coagulated pus, something like a false membrane. The cutis beneath was indented, and its muscles were larger and thicker. The skin under the parts where the areolæ were during life, was thickened and injected with dark blood. 4th. Some of the

pustules on the forearm have dried up ; their centre is flat, and surrounded with a brown crust which sinks deep into the cutis, but not so far as its deepest layer. The thickened and dark red skin forms a tolerably projecting swelling around the crusts.

There were ecchymosed and gangrenous tumours of various volume, but all had one common character—that of extending to the skin and the cellular tissue beneath. We counted five small ecchymotic tumours upon the inferior extremities : one was on the left inner ankle, another on the external surface of the same leg, a third on the inner side, a fourth on the inner side of the knee joint, a fifth on the anterior surface of the great toe on the right side. The small tumour above the upper eyebrow had a pustule in the centre. The epidermis which covered the first two tumours on the left leg was elevated by a reddish serosity, forming small phlyctenæ of different sizes ; when cut into the skin beneath was found much injected and of violet hue. The cutis is thickened, and its cells are distended by dark blood or a fluid like lees of wine, and in those places where the disturbance has been greatest, drops of pus can be squeezed out of it. The subcuticular cellular tissue is tumefied, hard, and infiltrated with blood and matter, which can easily be pressed out. In general, these lesions do not appear on the fibrous sheaths of the muscles. The livid tumours which occupy the anterior part of the shoulder, and the right side of the thorax, are only more advanced degrees of the same disease. On the right elbow the skin is perfectly destroyed for the space of two inches, and a grey shreddy remnant of the tissue is all that remains attached by some fibres to the tissue beneath. These fibres are soaked with grey purulent matter ; the cellular tissue under the skin is infiltrated with pus and blood. On the edges of this slough, the skin is of violet colour and covered with phlyctenæ, filled with a bluish fluid ; more externally it is dark red. These changes do not extend to the cellular tissue. The elbow joint is sound. The tumour under the nipple is four inches broad and two high, violet coloured, and covered with phlyctenæ, some of which contain a brownish fluid, some purulent serosity ; it is connected with that on the shoulder by a chain of little knots like those on the inferior extremity. There is more destruction of parts on the anterior of these tumours than any where else. The fibres of the *pectoralis major* are infiltrated with pus, and there is an abscess under the muscle. Small specks of a brown colour give to the anterior and inner part of the thigh a marble appearance ; the back part of the neck, trunk, and extremities are of the livid hue, usual to dead bodies.

The cellular tissue under the skin of the right forearm contains in its cells a large quantity of opaline serosity. There are

two small abscesses of the size of a pigeon's egg in the cellular tissue, one on the outer and middle part of the arm, the other on the upper and outer part of the left forearm ; the skin covering them is of the ordinary colour and thickness.

Mucous Membranes.—The left nasal cavity, somewhat smaller than that on the opposite side, is anteriorly, as far as the anterior part of the inferior turbinated bone, perfectly sound. Immediately before and above this bone there is a pustule of one and a-half lines diameter ; the inferior turbinated bone is so distended, that it fills the entire inferior part of the nasal cavity. The mucous membrane, cellular tissue, and periosteum, which cover its lamella, are thickened and injected with blood. Its entire surface is covered with small ulcerations, which nearly destroy the mucous membrane ; the bases of these little ulcerations are lined with a very thin white false membrane, which rest upon the periosteum, or cellular tissue ; in one place is the bone denuded. On the middle spongy bone are similar alterations ; but it is enlarged, and of smaller size. The edges of the opening into the sinus maxillaris are covered with pustules. The mucous membrane of the left nasal cavity is generally red, injected, and thickened ; but these lesions are more manifest around the ulcerations and pustules. The right nasal cavity has, upon its under and outer wall, an elongated ulceration, which involves the space from the anterior opening to the fore part of the inferior spongy bone. The whole posterior part of this bone is tumid, and covered with ulcerations, the bases of which are lined with false membranes, half an inch thick. A large pustule is placed upon the under border anteriorly of the middle spongy bone ; more posteriorly the mucous membrane exhibits loss of substance in many points. With the exception of the anterior and upper part of the mucous membrane of the nasal cavity, the rest of the membrane is everywhere red, injected, and thickened ; the redness and swelling are more remarkable about the ulceration. The septum narium is perforated, immediately before the vomer, by an oval opening, six lines from before backwards, and three and a-half from above downwards. On the left side the membrane is destroyed for a large space, and the cartilage denuded ; on the right numerous ulcerations cover the septum behind the perforation. There were no traces of gangrene in the nasal cavities. In the frontal sinus of the left side there were three small pustules, surrounded by a red areola. The spheroidal, or maxillary sinuses, contained a large quantity of thick yellow mucus. The mucous membrane, which covers the inner wall of the left maxillary sinus, is red, injected, and covered with bluish pustules. A small abscess, filled with a

bilious-coloured substance, of the size of a bean, elevates the membrane which covers the under and outer wall. In the right sinus the membrane is also vascular, and two abscesses are in its outer wall the size of peas. The openings of the Eustachian tubes are surrounded by ulcerated pustules, more numerous on the right than on the left. The sides of the pharynx are covered with pustules and ulcerations, which, on the right side, do not extend farther than the amygdalæ, but on the left descend to the opening of the œsophagus, but are very few in number in the neighbourhood of the larynx. The membrane covering the epiglottis, larynx, and trachea, is red, but neither softened nor ulcerated. The living membrane of the bronchi is of a dark red, and on some spots brown-coloured. When the pustules and ulcerations of the mucous membranes are closely examined, it is found that the former are separated in the cellular tissue; for the mucous membrane can be dissected off, and yet the pustules remain, having only lost their point: the ulcerations are manifestly only erosions of the pustules: the cavity of the mouth and œsophagus healthy: a single pustule is to be found in the uvula. The large end of the stomach is of a violet hue, from the state of injection of its vessels, and small ecchymoses are to be found in their course, the mucous membrane over them a little softened; no change worthy of remark in the ilium. The lining membrane of the cœcum is of a livid colour, but neither softened nor ulcerated; nothing abnormal in the rest of the large intestine.

Lymphatic Ganglia.—The infra-maxillary ganglia of the right side are of brown colour, more easily torn than in the normal condition, and larger than those of the opposite side; those behind the angle of the jaw, and those situated along the course of the jugular veins, are also somewhat enlarged, browner, and softer than usual; the glands in the axillæ and groins present the same appearances; there is no trace in any of them of tubercular matter.

Vascular System.—Arteries sound; the venæ cavæ are full of a black, syrup like, partly coagulated, and partly fluid blood. A mass, half black and half grey, closes imperfectly the left subclavian vein, and extends as far as the heart. The left cephalic vein, in which he was once bled, is filled with a hard fibrous black coagulum, which is separated from the incision made by the lancet, by a tough white membrane, which is easily separated from the coagulum. The opening into the vein had cicatrized; but the vessel at this part was surrounded with pus, which communicated with a small ulceration in the skin. The coagulum terminated in the median cephalic vein below and above; an inch from the subclavian the left cephalic contained a coagulum of small size. There was no ul-

ceration about either of the openings which were made into it during life. Nothing remarkable was found in the rest of the veins, and no purulent matter was found in them anywhere.

Muscles, and cellular Tissue between them.—Numerous abscesses, the greater number of them filled with purulent matter, the colour of wine-lees, were found in great numbers in and between the muscles; as, for example, in the pectoralis major of the right side, deltoid, triceps brachii, brachialis anticus, and biceps of the left side. In the biceps of the right arm there were only two very small collections of matter; but a very great number were in the muscles of the external and posterior parts of both forearms, and in the deep muscles of both legs. The walls of these little abscesses were injected, and many of the veins obliterated. The largest and most formidable abscess was developed under the anterior part of the deltoid, on the right side, and extended to the axilla, by passing between the os humeri and the muscles attached to the coracoid process; it passed upwards an inch under the pectoralis minor, towards the clavicle, and descended as far as the lower edge of the pectoralis major. It contained two wine glasses and a-half of whitish yellow pus, thick, and mingled with flakes; a soft and tolerably thick false membrane lined the wall of this cavity. The forewall of this abscess is formed of the deltoid, biceps, coraco-brachialis, pectoralis major and minor; the posterior by the humerus, deltoid, latissimus dorsi, serratus magnus, teres major, and the large bundle of nerves and vessels of the axilla. The walls of this cavity were red and injected.

Joints.—The right shoulder joint held a spoonfull of purulent thick synovia, and a thin layer of false membrane covered the inner surface of the capsule. The vessels of the cellular tissue, under the synovial membrane, are injected; no injection beyond the edges of the cartilage. The right knee joint, the left elbow and wrist, contain a tolerably large quantity of yellowish, muddy, and opaque synovia; the other joints healthy.

Cavity of the Cranium.—The vessels much filled with black blood; contain a few consistent coagula. The membranes of the brain are not infiltrated, and the brain appears healthy.

Cavity of the Chest.—The pleuræ are reddened; their surfaces uneven and rumpled; the right pleura contains a small quantity of reddish serum. There is an abscess, of the size of half an egg, which elevates the pleura costalis in the intercostal space between the fifth and sixth ribs, close to the cartilage; the muscles, for one and a-half inches, are destroyed, leaving an opening through which the matter of this abscess communicates with a large collection of matter under the pectoralis

major. This latter does not communicate with the abscess in the axilla. The lungs, much infarcted and filled, crepitate a little; they are filled, in all parts, with small white and brown little bodies, a great number of which project from their surface. These little pneumonic lobules (*pneumoniæ lobulares*) vary from the size of a small nut to that of a hemp seed, but are, for the most part, as large as a hazel nut. Some of these are brown, hard, easily torn little bodies, presenting the characters of the second stage of pneumonia; almost all the other parts are of white colour and uneven surface, and appear to be formed of very small white granulations, which, probably, are nothing more than cells filled with pus and serum. Besides these there is no collection of matter in the lungs. When the organs are squeezed there comes out of the bronchi a foamy rust-coloured mucus. The heart appears healthy; on its surface there were two or three little white membranes, which were undoubtedly the traces of a former attack of pericarditis.

Abdominal Viscera.—Liver large and healthy; spleen, kidneys, ureters, and bladder, healthy; the last much distended; testicles unaffected.—*Froriep's Neue Notizen*, No. 170.

This case is so accurately described, and carries with it so much evidence of being the same disease as that which exists in the horse, and is so respectably attested, that we felt it would not be an obtrusion on the patience of our readers to give it in all its details.

We have seen many suspicious cases of glanders in the human subject, but in none have the lesions occurring in the nose had so marked a similitude to those occurring in the horse as in the case above described. There is also a peculiarity in the areola, which surrounds the glanderous pustule in man, which is not mentioned as having been remarked in this case. Mr. Adams, of the Richmond Hospital, directed my attention to this circumstance: the little pustule, with its phlyzationous summit, is in the centre; surrounding this there is a ring of red, gradually shaded off, and external to this a *perfectly white ring*. Some cases have occurred in the Richmond Hospital, lately, under the care of Drs. Macdonnell, Hutton, &c., of which, as the latter gentleman is about to publish them, we do not feel at liberty to give the details. One circumstance, however, of the highest interest in proving the sameness of the disease in man and animals is, that an ass, being inoculated with the matter from a pustule in a female affected with this disease, became glandered, competent veterinary opinions being taken to confirm the fact. Science is indebted for this latter experiment to Mr. Brabason.

Essays on various Subjects connected with Midwifery. By THOMAS RADFORD, ESQ. Manchester, &c. 1839.

It has often appeared to us very desirable that a collection should be made of the more valuable of the various monographs which have from time to time appeared in the different periodicals, on several subjects. Almost all the recent improvements in midwifery, for example, have first appeared in the form of essays; and yet, after these have been once read, they are very apt to sink into oblivion. Neither do systematic works, even though embracing the subject of such essays, do away with the necessity of such a collection; for, in the latter, much more detail is given than in the former; processes, rather than results, are dwelt upon, which is precisely the contrary to the construction of systems. For this reason, we warmly welcome the very unpretending *brochure* at the head of this article; but it has other and much higher claims to consideration. It is the production of a gentleman of great ingenuity, much thought, and extensive experience in his profession. The work consists of five essays, which formerly appeared in different periodicals. There is an essay on umbilical hæmorrhage; one on protracted labour from malposition of the foetal head, and on injury to the head of the child; another on the long forceps; a fourth on turning; and a fifth on inversion of the uterus. The latter appeared in this Journal last year, and the fourth is noticed in another part of this number. We shall, therefore, at present, only point out some peculiarities of the three first essays, and that shortly, from pressure of other matter.

Mr. Radford first alludes to the bleeding from the cord soon after birth, notwithstanding that it has been tightly tied. This is owing, as he truly observes, to the shrinking of the cord from the escape of the Whartonian gelatine, and he thus proposes to avoid the danger:

“Let the ligature be first tightly placed upon the placental portion of the cord, and then let another ligature be loosely placed upon that portion of the funis which is to remain connected with the foetus, and which must be tightened after the division; and, in order to give additional security, let a second ligature be placed upon this part. The advantage of this method arises from the more decided influence which the ligature produces upon the calibre of the vessels, in consequence of the more serous portion of the gelatinous fluid escaping from the divided extremity.”—(p. 3.)

Bleeding from the navel, after the decadence of the portion of cord, Mr. R. has found always fatal, except in one case. Compression is almost useless, and for obvious reasons—there is no

solid or firm structure behind the vein against which compression can be made ; and,

“ Another circumstance unfavourable to the operation of compression, is the indisposition to contraction in the vein. The calibre is not completely and permanently obliterated at the time of the separation of the funis. Its extremity alone is consolidated by adhesive inflammation, the remaining portion of the vessel being filled with coagulated blood, which is gradually absorbed.”

“ Escharotics have been recommended to arrest bleeding from this vessel. The danger of propagating inflammation to the abdominal cavity, in consequence of the immediate connexion of this vessel with the peritoneum, would be a sufficient objection to the employment of these means, besides their inadequacy to accomplish the end. The actual cautery has also been recommended, but its application is equally dangerous. I have also stated that an attempt to bring together the sides of the bleeding vessels, by passing a harelip pin through the integuments, &c. was unsuccessful. Under these circumstances, then, what is to be done ? We have no alternative but that of cutting down upon the vessel, and placing a ligature upon it. This practice promises the greatest chance of success, and at all events does not (if due care be observed in the operation) place the little patient in a more dangerous situation.”—(p. 6.)

We have heretofore suggested the propriety of trying the effect of filling the navel with plaster of Paris, either quite dry or slightly moistened.

Mr. Radford commences his paper on the forceps with an interesting account of those used by the most eminent practitioners, but against which he has serious objections, to wit :

“ As the head of the child usually presents at the brim of the pelvis in a diagonal direction, with the occiput to one or the other side, thus lying lower than the anterior part of the head, it is demonstrably clear, that if two blades of equal length are passed and applied over the head and foreparts of the head, that this must be seized very unfavourably,” “ as one blade will take its position over the occiput, and the point of the other blade will rest upon or below the supra-orbital ridge of the parietal bone, with great danger of injuring the eye.”

Besides this, Mr. Radford points out another danger from the stretching the external parts, owing to the wide separation of the blades. To avoid this, he has constructed a pair of forceps, which deserve a fair and full trial. He thus describes them :

“ The blades have only one curve to correspond with the convexity of the foetal head, and are of unequal length. The longest blade measures from end to end $13\frac{3}{4}$ inches, $10\frac{3}{4}$ of which belong to the blade and shank, measured from the lock to the extremity. The

shank from the lock to the point of divergence of the blades measures $3\frac{1}{2}$ inches, the breadth of the blade at its widest part is $2\frac{3}{8}$, the fenestrum is $5\frac{3}{8}$ inches long and $1\frac{1}{2}$ broad at its widest part; each clam or limbus is $\frac{3}{8}$ of an inch wide, and the handle measures 3 inches in length. The short blade of the instrument measures, from end to end, 13 inches; 10 inches belong to the blade, measured as before mentioned; the shank, from the lock to the point of divergence, $3\frac{1}{2}$; breadth at divided part of the blade, $2\frac{3}{8}$; fenestrum $5\frac{3}{8}$ inches long, and $1\frac{1}{2}$ inches broad at widest part; each clam or limbus $\frac{3}{8}$ inches wide; the handle being 3 inches in length."

As to their application,

"When the head of the child enters the brim, with the vertex to one or the other side, the *short* blade must invariably be passed in a corresponding direction, so as to be placed upon it; the long blade is to be carried on to the opposite side of the pelvis, and applied over the face."

Thus applied, the child may be extracted with as great facility as by the ordinary long forceps, and with much less danger, according to Mr. Radford. The instrument ought to be extensively tried, and, from the known judgment of the contriver, we anticipate a favourable result.

Want of space obliges us to take leave of this valuable collection of essays, which we trust will soon be in the hands of the profession. That they will be highly valued we know, because, from their practical character, they will be daily tested, and their truth made evident.

A Treatise on Infantile Remittent Fever, or the Gastric Fever of Infants. By JOHN THWAITES, M. D., M. R. I. A., &c. Dublin: Hodges and Smith.—pp. 32.

IN this little book, Dr. Thwaites has given a good description of the symptoms of the remittent fever of children, and also a digest of the treatment usually pursued by practical men in this country. He has not added any thing to our knowledge of the nature of the disease, considering "its ultimate cause to be as far from discovery as that of typhous fever has ever proved." The following illustration of the "power and *privileges* of Divine Providence" is novel:

"That the predisposition to the fever was existing before the exciting cause brought it into operation, few will venture to deny; and that it is a contagious disease is allowed on all sides. We must, therefore, look upon it as one of the many instances in which medical

pathology is at fault, and (however the expression may be disliked) one of those in which Divine Providence has reserved to itself the power and privilege of inviting inquiry, without gratifying our esteem or our pride."—(p. 12.)

We wish that Dr. Thwaites had avoided alluding to the supposed disinclination of pathologists to religious considerations. The general charge of irreligion against medical men is common-place and unfounded, and, at the present day, comes suspiciously from a member of the profession.

Dr. Thwaites approves highly of the warm bath in the treatment of this disease. We have seen many instances of its good effect in the continued gastric fever of children; and feel satisfied that Dr. Thwaites has not said too much in its praise. He observes, in a note, that "children cannot be supposed capable of enduring a degree of heat equal to what nurses or parents can bear," and advises that, before the child be immersed, the mother should test the temperature of the water by putting her elbow or foot into it,—a proceeding which we also would strongly advise should be adopted. Dr. Thwaites concludes by giving a good sketch of the diagnostics between remittent fever and hydrocephalus.

WORMALD'S *Anatomical Sketches and Diagrams*. Part II.

ALTHOUGH it is true that anatomy cannot be learned in any other way than by the practice of actual dissection, yet we strongly recommend this work to the attention of the anatomical student, as a means of assisting the tyro in anatomy, and also of refreshing the memory of the more advanced.

The work consists of a series of plates exhibiting dissections of the most important regions, which are executed with an anatomical accuracy, and style of delineation, highly creditable to the author. To these plates, simple explanatory tables are attached, and the work is not, like the majority of publications of this class, so expensive as to be beyond the reach of the greater number of students.

Illustrations of Osteology. By THEODORE S. G. BOISRAGON.
Part I.

WE have received the first number of this work. It contains delineations of the skeleton of the hand and foot, and of the bones of the upper and lower extremities. These plates are executed in a very superior manner indeed; and, when this work is completed, we doubt not, from the sample already afforded us, that it will be a very valuable addition to the library of the anatomist.

Outlines of Human Osteology. By F. C. WARD.

WE have received, and read with much pleasure, the first part of this little work. The want of a concise, clear, and, at the same time, accurate treatise on osteology, has been long felt by every teacher of anatomy; and this want the *Outlines of Human Osteology* promises fairly to supply.

We should not, nor did we expect to find any great addition to our knowledge of the anatomy of the human skeleton in this work; but the author has evidently, in its compilation, been at great pains to insure accuracy, while, in his descriptions, brevity and distinctness are very happily combined. The plan followed by the author, of not mixing up the anatomy of the soft parts with the description of the bones, is one we highly approve of, and is calculated greatly to facilitate the progress of the student.

This work is written expressly for the use of the anatomical student, and to him we hesitate not to say it is a considerable boon, carrying with it the recommendation of brevity, accuracy, and clearness of description; and we would advise every student to possess himself of this little volume.

A Treatise on Neuralgia. By RICHARD ROWLAND, M.D.,
Member of the Royal College of Physicians, London, &c.
Highley, 1838.

THIS is a very valuable work, giving in a small compass the best account of neuralgic diseases that has ever appeared in our language. It is not merely a digest of the opinions entertained, and facts enumerated by other authors, but contains many practical views of disease, which shew that Dr. Rowland possesses a "medical mind" of no common order. In proof of this, we might refer to his observations on spinal irritation. He ably combats the doctrines on this subject, which have lately prevailed, which teach that what is in reality an effect, is the source of the disease; and we quite agree with him in the opinion, that, respecting the nature of spinal irritation little more than conjecture has hitherto been advanced.

The work exhibits great research, and must always preserve its place in the medical literature of this country.

Reports of the Royal School of Medicine and Surgery, Birmingham. Address by the Rev. VAUGHAN THOMAS, B. D., &c. The Warneford Prize Essay for 1838.

WE beg to acknowledge the receipt of these documents, relating to the Royal School of Medicine and Surgery in Birmingham. The subject of the essay is the valvular structure of veins, considered, according to the intention of the founder of the prize, as evidence of the wisdom, power, and goodness of the Creator of all things.

In an address delivered at the third anniversary meeting of the Birmingham school, by the Rev. Vaughan Thomas, we find a full statement of the intentions of the munificent founder of the Warneford prize. Speaking of the endowment of this prize, Mr. Thomas says :

“The REV. DR. SAMUEL WILSON WARNEFORD, its founder, by permanently securing these honours and rewards to successful competition, wished to direct the attention of students to the truths of revelation, as well as the phenomena of nature, and to induce them to combine a *scriptural* apprehension of God’s wisdom, power, and goodness, with a practical knowledge of the structure and functions of the human body.

“That friend of man, and faithful servant of God, whose munificence it has been my happiness to witness, under so many different relations to the wants and woes of mankind, perceived, or thought that he perceived, but very few resting-places for sacred meditation in any of those wide fields of natural science, which the medical and surgical student is obliged to traverse. He well knew, that nothing could be done by legislative enactment; that nothing had been done by the corporations, whose privilege it is to pronounce upon the qualifications of students, in order to give a Christian character to professional pursuits; nothing to connect the Creator with his creation; nothing to throw the rays of *revealed* light upon the paths and passages that lead into the recesses of nature. He was also led to apprehend, from recent publications, that there were some, who, by intermingling lessons of infidelity with anatomical and physiological instruction, were doing what they could to rob God of his glory, and man of his gratitude; moral virtue of its best support, human reason of its surest guidance, and professional attainments of their brightest honour.”

In founding this prize, Dr. Warneford has taken a step which reflects the greatest honour upon him, and entitles him to the thanks of the medical world. The study of anatomy is too often pursued in a manner by no means calculated to produce a high tone of feeling in the minds of the students, parti-

cularly those who have not received a good preliminary education, and whose tastes have not been formed on a proper model; and hence, any inducement to serious reflection on higher objects, must be beneficial. It is thus that we would anticipate good results from the foundation of this prize, for we are unfashionably sceptical as to the utility of scientific investigation in advancing the cause of revealed religion. The authors of the Bridgewater treatises, and the essay before us, seem to have felt the difficulty of connecting science and revelation; and we find their works to consist of dissertations which would answer for any ordinary descriptive scientific work; to which are appended a few commonplace reflections on the attributes of the Deity; which come in awkwardly, as it were out of place, and seem tacked to the work to save appearances.

We would wish to be clearly understood on this point. While we repudiate the doctrine, that the pursuits of science lead us away from God, and making us forget our comparative nothingness, feed our natural pride, and turn us to atheism, we believe that the study of nature will only lead to theism; it will tell us, indeed, of the wisdom, goodness, power, and knowledge of the Creator; but it will not instruct us in truths more important to us. If the study of nature could make us religious, why did the Redeemer teach and suffer? Would the knowledge of some doubtful analogies convince us on our deathbed of the life of the soul; will anatomy teach us our own corruption? In what part of science are we to learn the insufficiency of our own works? These truths are undiscoverable, and are therefore revealed; and thus the gates of heaven are thrown as widely open to the unlettered peasants as to the most learned philosopher.

We beg to congratulate the professors of the Royal School of Medicine in Birmingham, on the success of their institution. The production of essays such as that of MR. THOMAS CLARKE RODEN now before us, is the best evidence that can be given that they are doing their duty as investigators and as teachers, of the noblest and most useful branch of human knowledge.

Instructions for Organic Analysis. By JUSTUS LIEBIG, M. D., Professor of Chemistry in the University of Giesen. Translated by WILLIAM GREGORY, M. D., M.R.I.A., &c.—Glasgow, 1839.

THE investigation of the properties of organic compounds has long attracted the attention of some of the most illustrious chemists in Europe, and the difficulties attendant upon researches in this branch of science have led most chemical philosophers

to endeavour to simplify the modes of research, and to point out certain means of arriving at accurate results, as well as to reduce to one uniform system the knowledge acquired by different experimenters. Of course our readers are well aware of the numerous researches which have been made in organic chemistry by Berzelius, Prout, and Gay Lussac, to whom we owe the first accurate knowledge of the mode in which this science should be pursued, and who laid the foundation of its present improvements. It is, however, to the author of the present work that we owe the rapid progress which has of late been made in what may be termed the science of this branch of chemistry. He has been most successful not only in pointing out the mode to be pursued to obtain accuracy in research, but has also done much towards methodizing the ill-digested mass of facts already known, and generalizing and reducing to one uniform system the various phenomena presented in this very complicated department of chemistry. In doing so much, he has perhaps occasionally been led too far in the construction of a theory, and been too hasty in some of his generalizations. This is, however, an evil of but small amount compared with the benefit resulting from anything like an adequate arrangement of the subjects of organic research, and may be considered as inseparable from a branch of science in which so much is necessarily left to the imagination, and such difficulty exists of acquiring anything like rigidly accurate data upon which to form a theory. In these respects there is a striking difference between organic and inorganic analysis; in the latter we can obtain a mathematical degree of accuracy but by means which are always slow and laborious, and in all our researches we are guided by well established laws by which we can verify our calculations; in the former we can, with great rapidity, arrive at results which we are either obliged to frame a theory to support or to *correct*, so as to suit a preconceived hypothesis; and, in consequence of the difficulty which other experimenters have, in most cases, of verifying analysis, even of the same substance, we must generally depend on the honesty of the analyst for the credibility of his hypothesis. This objection, however, to this branch of chemistry will, as facts accumulate and more correct modes of research become known, gradually diminish, and the department of organic chemistry be as well defined and accurate as that of any other branch of the science.

For aiding us in attaining this object, we owe much to the author of the work before us. His labours deserve the highest praise, had he no other merit but that of simplifying the apparatus and pointing out the mode of making organic analysis with rapidity and accuracy. To enable our readers to judge of the advantages he has conferred upon chemists, we may mention,

that there are annually made in his laboratory three or four hundred analyses—a number almost incredible to those who have only been engaged in inorganic researches. But the amount of the benefit conferred by Liebig upon science will appear more striking when we mention that Berzelius was employed during eighteen months upon seven analyses, and Chevreul thirteen years in the analyses necessary for his researches on fatty bodies, in consequence of using a complicated apparatus not by any means capable of the accuracy which the more simple arrangement of Liebig attains with infinitely less trouble and loss of time.

It may be interesting to some of our readers to give a short sketch of the processes adopted by Liebig in organic analyses, and the general principles upon which they are founded. The subjects of these analyses are compounds containing three or four elements, and it is the determination of the ratios in which these combine that constitutes the task of the operator. These elements are carbon, hydrogen, oxygen, and nitrogen; and to effect their separation and determine with accuracy their proportion, different modes have been pointed out by Berzelius, Prout, Gay Lussac, &c. But, as the method of Liebig must supersede those pointed out by these chemists, we will strictly confine ourselves to the description of his process as briefly as possible, supposing that the substance under examination contains merely carbon, hydrogen, and oxygen.

The first object is to obtain the substance for analysis in a state of absolute purity and perfectly free from hygrometric water; the former object must be attained by the usual means had recourse to by chemists, the latter may be effected by some of the following means: either by placing it *in vacuo* with sulphuric acid or chloride of calcium, or by heating it in a bath of water or chloride of zinc, and passing over it a current of perfectly dry air. The necessity of effecting the complete separation of hygrometric moisture will be apparent, when we recollect that the quantity of hydrogen in the compound must be determined by the quantity of water produced in the analysis. Having effected the drying of the substance, a few grains of it are to be taken and accurately weighed in such a manner as completely to prevent the reabsorption of moisture from the air. It is then to be intimately mixed with oxide of copper, which has the property of bearing a very high temperature without decomposition, unless carbon or hydrogen be present; but if either these substances be presented to it, it undergoes decomposition, giving off so much oxygen as may be sufficient to convert the former into carbonic acid and the latter into water. We have consequently only to heat the organic body with this oxide, and collect the products of combustion, to determine the ratio of these elements. Having

mixed the substance with the oxide of copper, it is introduced into a tube about eighteen inches long and one-half inch diameter, to which is fitted accurately a cork through which passes the extremity of another tube containing fused chloride of calcium; this tube is then connected by means of a piece of caoutchouc, with an apparatus contrived by Liebig, which consists of a combination of small glass spheres so arranged that when it is partially filled with a solution of potash, any gas passing through it will be exposed by such an extensive surface to the action of the alkali, that all carbonic acid it may contain will be completely absorbed. If, therefore, we have weighed this apparatus, as well as the tube containing the chloride of calcium, before the experiment, and then heat the tube containing the oxide of copper, so as to effect the combustion of the organic substance, we can, by weighing them after the combustion is completed, estimate by the increased weight of each the quantity of water and carbonic acid produced, and deduce from these data the exact quantity of carbon and hydrogen in the substance.

Such is a general outline of the process for determining two of the elements of organic bodies; the oxygen of the substance must be determined by the difference between the weight of these elements and of the original quantity employed. Should the substance, however, contain nitrogen, this can only be determined by admeasurement of the gas produced. We must refer our readers for the details of the process, and also for the admirable directions to insure accuracy, to the work before us, in which they are most distinctly given.

Before we conclude, we must say a few words respecting the translator of this very valuable treatise, and it gives us much gratification to be able to speak in the highest terms of commendation of his execution of his task. Dr. Gregory has not been merely a faithful translator of his author's words, but from his own complete knowledge of the subject has given us essentially his meaning, frequently elucidating what was obscure, or supplying what was deficient by very useful, original commentary. To be a good translator requires more than a knowledge of the language we interpret; the subject matter must be well understood, or such errors and blunders will deface the work as make us think "the interpreter to be harder to understand of the two;" of this we could bring forward several examples in recent translations of scientific works, but the present work proves to us the advantage attendant on a translator's possessing the complete knowledge of the spirit as well as the letter of his author, as none but a master of the subject, as Dr. Gregory is known to be, could have left us nothing to require illustrative of the subject of his work.

SCIENTIFIC INTELLIGENCE.

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.—(CONTINUED.)

3rd January, 1839.

Dr. LABATT in the Chair.

Dr. Mac Adam read a paper on vomiting as occurring in infants and young children. He divided its causes into three kinds:—1st, vomiting may be excited by the contents of the stomach proving irritating, the organ itself being at the same time in a healthy state; 2ndly, it may arise from some derangement in the digestive process, or from a morbid condition of the gastric mucous membrane; 3rdly, it may be caused by the sympathetic influence exerted by other organs when disordered on the stomach.

Under the first head he classed the most simple form of vomiting, namely, that arising from the stomach being overloaded by too large a quantity of breast milk; under such circumstances the fluid is ejected unchanged in its appearance. Though this is by nurses considered a sign of health, it is a habit which should be prevented, as it may give rise to a disordered state of the stomach, diarrhoea, convulsions, or other mischief. A variety which should be carefully distinguished from vomiting arising from simple over-distention, is that caused by a vitiated condition of the milk, in consequence of the nurse having undergone any violent mental emotion, any sickness or derangement of the stomach, or having had a return of the catamenia during lactation, or by the disordered state of her constitution preceding their appearance. The infant will, in such cases, exhibit more signs of indisposition, and the matter ejected will differ in appearance more or less from simple milk, being sometimes glairy or mixed with bile, and sometimes coagulated into masses.

Similar indisposition is produced by improper spoonfeeding, either in consequence of its being not sufficiently boiled, or too thick, or of an indigestible kind. Acrid or poisonous matter has sometimes, though rarely, been taken by infants, as occurred in the cases mentioned by Rosenstein, where sickness and urgent vomiting were induced by the use of food prepared in a brass vessel. Whenever,

therefore, vomiting in infants cannot be traced to over-distention, or vitiated milk, we should inquire into the nature of its food, and what is frequently overlooked, the mode of its preparation.

In the second species of vomiting, or that arising from derangement in the digestive apparatus, the matters ejected will evince by their appearance and sensible properties that the food has not been converted into healthy chyme. Excess of acid is one of the most common effects arising from this cause; in such cases the child's breath will have a sour smell, the alvine discharges be greenish, and exhale an acid odour, and the milk thrown up curdled often into masses of large size. On this subject, however, Dewees observes, that this appearance of the milk must not always be set down as a morbid change; as the fluid must undergo such an alteration before digestion is accomplished.* This Dr. Mac Adam thinks is true to a certain extent, but if the curdled matter be ejected in considerable quantity, of unusual firmness, and if other signs of the excessive generation of acid be present, we are justified in considering it as arising from some fault in the digestive process. Dewees supposes that vomiting may be produced by a deficiency of acid, when the milk will come up unchanged, but this idea appears to the author quite gratuitous, such a state being much more likely to arise from excessive irritability of the stomach. From the latter cause there is reason to believe vomiting may occur, independently of any inflammatory action. Bellard observes, that it is difficult to prove its existence, as an infant cannot explain its sensations; still he appears to admit that it may occur.† A similar condition is described by Underwood, Dewees, and Dunglisson. It appears to Dr. Mac Adam that for all useful purposes this alleged cause of vomiting may be looked upon as hypothetical, and that even if it do exist, we have no very certain criteria by which it could be distinguished from vomiting arising from indigestion or inflammation.

The inflammation of the gastric mucous membrane is occasionally the cause of vomiting with infants; in such cases this symptom will be urgent, and accompanied with tension, pain, and tenderness on pressure in the epigastrium. Vomiting will be excited by the smallest quantity of food or drink, and that combination of symptoms characteristic of gastritis will be present.

The varieties of the third class, or sympathetic vomiting, are numerous, and can only be distinguished from each other by ascertaining the organ primarily affected. As a general rule it may be stated, that where vomiting continues for some time urgent, and is unaccompanied with any disturbance of the bowels, there are strong grounds for concluding that it is the consequence of the stomach sympathising with some other organ. "Thus," continues the author, "I have so often seen obstinate and continued vomiting form the most prominent symptom in the commencement of acute hydrocephalus

* *Physical and Medical Treatment of Children.* London, 1826, page 397.

† *Maladies des Enfants,* Paris, 1833, page 318.

that I always regard it with considerable alarm when occurring during infancy and childhood, unless it can be distinctly traced to some cause connected with the state of the stomach or bowels."

With respect to the treatment, when a child is attacked with vomiting, our first object should be to ascertain if it arises from unsuitable aliment. If necessary, a healthy nurse should in such cases be provided, and a regular action of the child's bowels maintained by the least irritating means, as by the following mixture:—Magnesiæ Ustæ gr. xxiv.; Hydr. c. Cret. gr. xii.; Pulv. G. Arab. ℥i.; Pulv. Sacchar. Alb. ℥i.; Aquæ Distil. ℥iss.; Aquæ Cinnamom. ℥ss. M. To a child a month old a tea-spoonful may be given every two hours, and after two doses an aperient enema. With older children, if this mixture does not quiet the stomach, the citrate of magnesia, as in the following formula, may be substituted with advantage:—Magnes. Carb. ℥i.; Succ. Limon. recent. ℥iii. vel q. s. ad saturand.; Syrupi Aurant. ℥ss.

Where change of nurse is impracticable, we should endeavour to correct whatever is wrong in her general health; the infant should be removed from her breast for a time, or in part, and supported on small quantities of asses' milk mixed with water in the proportion of three parts of the former to one of the latter; or equal parts of soda water and milk, or rennet whey may be given.

If improper spoon-feeding has been the cause of the attack, the substitution of a suitable diet will claim our first attention. The food should be given in small quantities at a time, and of a very thin or altogether of a fluid consistence; the liquids already mentioned may be employed, or thin arrow-root made on water mixed with a very small quantity of milk or very weak chicken broth, and the aperients before-mentioned should be administered.

If deranged digestion and the consequent generation of acid exist, much benefit will be derived from small doses of calomel combined with chalk, which may be repeated every two hours until relief is obtained. In this case also the magnesia mixture or the following will be useful:—Aquæ Cinnamom. ℥iss. Sptûs Ammon.; Arom. gtts. xii.; Tinct. Rhæi. ℥i.; Pulv. Sacchar. Alb. ℥i.; Magnes. Ustæ ℥i.

If the vomiting should continue, notwithstanding the employment of these means, there is reason to infer it arises either from morbid irritability or inflammation of the gastric mucous membrane. When the former state exists, much benefit will arise from the exhibition of small opiates conjoined with minute doses of calomel and chalk, and as soon as the irritability has been subdued we should be careful to give a mild aperient, as, if the bowels are not duly relieved, the vomiting will be likely to recur.

In addition to these means counter-irritation on the epigastrium will be an important auxiliary, a bit of flannel sprinkled with turpentine, or dipped in spirits, and slightly dusted with pepper, as recommended by Burns, will often produce a sufficiently rubefacient effect. Some authors recommend tonics and cordials in such cases.*

* Dunglison, p. 163; Underwood, by Hall, p. 185.

Occasionally those remedies may be useful in restoring the tone of the stomach after the bowels have been regulated, and the vomiting allayed by other means, but they require to be used with discrimination; in the earlier stages they would be more likely to aggravate the evil, especially, if any tendency to inflammation existed. In some cases accompanied with great prostration of strength, coldness of the extremities and flatulent eructations, infusion of cloves, or white wine whey, is very beneficial.

When the vomiting arises from inflammation, the treatment suitable to gastritis should be employed. In symptomatic vomiting, our attention should be principally directed to the organ, whose lesion gives rise to this distressing symptom.

Dr. Thomas Brady then read a paper on the Value of Medical Evidence in Cases of Infanticide, of which the following is an abstract:

In every case of infanticide two material questions arise, which in general can only be determined by medical testimony.

1st. Was the child *born alive*?

2nd. Was it murdered?

If the first be answered in the negative, the prosecution fails. But however clearly it be established that the child was alive at the time of birth, it must still be proved that it was wilfully destroyed.

These very distinct propositions are often confounded even by members of the medical profession, and much of the doubt that prevails, ~~as to the value~~ of medical evidence in such cases, probably depends on their ~~not~~ being sufficiently discriminated. Even the acute mind of Dr. Wm. Hunter appears to have been clouded by a confusion of this kind, as we find him laying down as "the material question in such a case—how far we may conclude that a child was born alive, and *probably murdered*, if its lungs *swim* in water."

The medical evidence of the murder not differing materially from that every day relied on in other cases of death from violence, it is only necessary here to consider the evidence by which the extra-uterine existence of the child is established. This is for the most part derived from the changes produced in the lungs and heart by the establishment of respiration; and the chief proofs, or tests, as they are called, available in such cases, are the *hydrostatic* test, or test of Galen—the static, or test of Ploucquet—and the tests of Bernt, derived from the changes that take place in the foramen ovale and ductus arteriosus after birth.

The hydrostatic test is founded on the different *specific gravity* of the lungs before and after respiration. It proves no more, under any circumstances, than that the child has, or has not breathed; and of this it will in general afford conclusive evidence, if employed with due precautions. The inferences from it, however, that a child was *still-born*, or was *born alive*, according as its lungs sink or float in water, are liable to some exceptions, which have been put forward as objections to the test itself.

Thus to the inference of still-birth, from the sinking of the lungs, there are *three* exceptions.

1st. A child may *live* for some time after birth *without breathing*.

In such a case, the test would indicate correctly that the child had not breathed, but the inference that it was *still-born* would be untrue.

2nd. A child may *live* for some time, and *breathe*, but so imperfectly, that the lungs will not be rendered specifically lighter than water, and will *sink*; and in this case the inference of *still-birth* would be equally unfounded.

3rd. *Disease* may render the lungs of a child that has breathed specifically heavier than water.

It follows, therefore, that the hydrostatic test will never furnish *positive* proof of *still-birth*; but, as the diseases may be recognized, and the other cases are very rare, it will still always be strong *presumptive* evidence in this respect. Besides, in cases of infanticide, these fallacies in the test all make in favour of the accused.

To the inference that the child was *born alive*, because its lungs float, it has been objected,

1st. That respiration may take place in the *uterus* and *vagina*, and the lungs be thus rendered *specifically lighter* than water, and yet the child be still-born.

The force of this objection depends altogether upon the sense in which the law has been sometimes interpreted. The fact that a child may breathe in the passages, and die before delivery, is a circumstance for the consideration of the jury, in determining the mode of death, but in no degree weakens the validity of the test. Here, as in all other cases, the test is only employed to prove that respiration has taken place.

2nd. The lungs of a child *still-born* may float in consequence of air being generated in their tissue by *putrefaction* or *emphysema*. There is no doubt of the fact, but it is no valid objection to the test, as this fallacy can be easily and certainly recognized. And

3rd. The lungs of a *still-born* child may float from *artificial inflation*.

This is a real difficulty in the application of the hydrostatic test in certain cases. In *general*, indeed, it is sufficiently easy to determine, by its aid alone, whether the air that floats a lung has been introduced naturally or artificially; but there are cases where this is impossible.

The difficulty, however, thus created, is not of so much importance in a question of infanticide as it might at first appear, inasmuch as all the other circumstances of the case will probably be inconsistent with the allegation of artificial inflation having been attempted. Besides, the next test—the *static* test—which in all cases serves to corroborate the hydrostatic, is peculiarly useful in obviating this difficulty, as artificial inflation, though it alters the specific gravity of the lungs, produces no change in their absolute weight as respiration does.

The static test, or test of Ploucquet, is founded on the difference between the absolute weight of the lungs before and after respiration. The average weight of the lungs of children that have not breathed, is found to be about 580 grains, while in those that have, it is above 1000; the increase in weight being due to the increased quantity of blood circulating in them. Ploucquet proposed to make use of this fact, in determining whether a child had respired, by comparing the weight of the lungs with the weight of the body in still-born children, and in those that had breathed, and thus ascertaining the average proportion in each case. From a few such observations, he concluded that the ratio for children that had not breathed, was about 1 : 70, and 1 : 35 for those that had. Subsequently, however, it appeared from the researches of Chaussier, at Paris, and of Schmidt, at Vienna, that these averages were not only far from accurate, (their observations giving for the still-born the ratio 1 : 49 or 52, and for those that had breathed, 1 : 39 or 42,) but that the ratio of the weight of the lungs to the weight of the body varied exceedingly in both cases, and even that the ratio 1 : 70 was to be met with among children who had breathed, and that of 1 : 35 among the still-born. In consequence of these statements, this test fell into disrepute, and was for a time almost entirely neglected. But the recent investigations of Devergie (*Med. legale*, vol. i. p. 554,) are calculated to revive confidence in it, and give it, even in its present state, a real practical value. He has shewn, that of the 400 cases on which Chaussier's conclusions are founded, nearly one-half are from different causes inadmissible in such a calculation. The remaining 203 give a mean ratio for those that have breathed of 1 : 38, and of 1 : 51 for the still-born. But as it is chiefly necessary, in reference to infanticide, to determine the mean ratio about the period of maturity, he has classified, and compared with one another, the children of the same age. The result is, that previous to the eighth month of gestation, this test affords no useful indications, as there is scarcely any difference between the ratio for those that have breathed, and those that have not.

At the eighth month the ratios are,

<i>Before respiration.</i>	<i>After respiration.</i>
1 : 63	1 : 37

And in the ninth month,

<i>Before respiration.</i>	<i>After respiration.</i>
1 : 60	1 : 45

In other words, at the period of maturity, in a child that has *breathed*, the weight of the lungs is the one forty-fifth of the weight of the body; whilst in those that have *not breathed*, it is only the one-sixtieth. Besides, of thirty-three cases at the ninth month, where the children were *still-born*, there were only two in which the ratio was *higher* than the average ratio for those that had lived; and in nearly *two-thirds* of these cases the ratio was as *low* as 1 : 70.

Hence, it appears, that though the test of Ploucquet is not *con-*

clusive, it will, in a large number of cases, afford satisfactory corroborative proof. In five cases of mature children who had not breathed, examined by Mr. Taylor, of London, the ratios were 1 : 57 in three, 1 : 53 and 1 : 60, approaching nearly the average of Devergie ; and in three cases of children that had breathed, he found the mean ratio 1 : 35, corresponding to that laid down by Ploucquet. A few cases, which Dr. Brady had lately an opportunity of examining, through the kindness of the Master of the Lying-in Hospital, give the following results in reference to this test.

Weight of body.	Weight of lungs.	Ratio.
24500 grains.	381 grains.	1 : 64
64750 ,,	1054 ,,	1 : 61
36372 ,,	713 ,,	1 : 51

These children were still-born. The first was not more than eight months ; the other two had reached the full period of maturity. It may be remarked that in one of them the lungs far exceeded the average weight of foetal lungs ; but then the child was an enormous one, above 9lbs. avoirdupoise. It was delivered by the forceps, and gasped for an instant after birth. Though the weight of the lungs might raise a probability that the child had breathed, the "test of Ploucquet" gave a correct indication.

In the case of a mature child that had lived five hours, the result was,

Weight of body.	Weight of lungs.	Ratio.
35875	747	1 : 47

Though the ratio 1. 47 is a little lower than that assigned by Devergie, it is still sufficiently high to have corroborated the evidence obtained from other sources.

In an eight months' child, that lived five days, and died of en-
duscissement of the cellular tissue, the ratio was 1 : 32.

Weight of body.	Weight of lungs.	Ratio.
22312	677	1 : 32

The last kind of evidence to which it is intended to refer in this paper, is founded on the changes that occur in the foramen ovale and ductus arteriosus, in consequence, of the establishment of respiration. Dr. Bernt, of Vienna, who first called attention to this source of evidence in cases of infanticide, has described these changes as commencing so soon after birth, and proceeding with such regularity, as to furnish unequivocal proofs of extra-uterine existence, even when the child has survived a very short time only. With respect to the foramen ovale he says,

"1. In *fœtu*, omnino non respirante, hiatus foraminis ovalis ad *imam* partem valvulæ reperitur, &c.

"2. In *infante* recens nato, qui per *paucula* momenta respiratione usus est, apertura istius foraminis a tramite suo pristino jam *paululum dextrorsum deflexa* conspicitur, &c."

Not to speak of the necessarily doubtful character of an opinion

founded on such a minute change in the *form* of a part, it is quite certain that neither of the above statements will be found invariably true. The opening is not always at the lowest part of the valve in *still-born* children; indeed considerable progress towards closing the opening is often made previous to birth, [three preparations of the foetal heart proving this statement were exhibited,] and on the other hand children have lived many hours, nay days, and yet not the slightest change had taken place in the position of the foramen. The evidence derived from the state of the ductus arteriosus is liable to precisely the same objections. The characters relied on by Bernt as the criterion of extra-uterine life, are not unfrequently met with in children born dead; while on the contrary numerous cases are related of children who have lived several hours, without the slightest appearance of contraction having taken place in the arterial duct.—[The heart of a child, already referred to, which had lived five hours, was here exhibited, as a striking illustration of this fact.]

These tests may serve at times to strengthen the conclusions derived from other sources, but can scarcely ever of themselves afford positive proof in cases of infanticide.

Dr. Kennedy then exhibited a still-born infant, with excoriation round the throat, of a dark red colour, and remarked how easily such a circumstance might be mistaken for the result of violence, were it not for the appearances presented by the cord.

7th February.

Dr. KENNEDY in the Chair.

Mr. Purdon read a paper on the Peculiarities of the Fœtus. He commenced by stating that the subject was one of much interest and importance in an anatomical point of view, and that it was not confined to those peculiarities which ceased on or before the first inspiration, but embraced also those which continued for some time after. He pointed out the difference between the superior and inferior extremities in their development, the peculiarities of the skin, and the use of the vernix caseosa; also the state of the bones of the head, and the appearance of the brain, and the refutation by Tiedemann of Gall's opinion with respect to its growth; then the several differences which exist in the eye and auditory passages, when compared with those organs in the adult. He described the peculiarities in the curvature and pyramids of the foetal spine, and noticed the structure of the thyroid body, and the difference in the shape of the chest and in its contents. He drew the attention of the Society to the structure of the thymous gland and its connexions, also to Sir A. Cooper's opinion of its secreting a peculiar albuminous fluid, which is conveyed from the gland to the veins by the lymphatics. He next traced the umbilical vein to its termination, and shewed that in the fœtus the liver exerted a specific influence in changing the blood, in addition to forming the bile, a fluid which differs from that of the adult in not containing pickromel. He described the colour of the

meconium and its composition, namely, the excrementitious part of the bile and the intestinal mucus. He then spoke of the peculiarities of the abdomen and its contents, the structure of the renal capsules and kidneys, and the analysis of the tissue; the shape of the bladder, and descent of the testis. He recalled to the recollection of the Society Hunter's opinion with respect to the gubernaculum testis, and its refutation, and described the shape of the foetal pelvis.

The next subject the author touched upon was the peculiar situation of the foetus in utero, and its connexions to that organ, and mentioned a case, in which, on the rupture of the membranes in a woman affected with icterus, the liquor amnii exhibited a deep yellow colour. He entered minutely into the structure and contents of the cord, its attachment to the placenta, and the opinions of Hunter, the Munroes, and Lee, also the experiments performed by Williams, for the purpose of ascertaining whether any communication existed between the maternal and foetal vessels, and pointed out the objections to which these experiments are liable. Having reminded the Society that Miller had succeeded in repeating Hunter's experiment, he gave it as his opinion that Hunter was correct in his views of the subject, and concluded by describing the foetal circulation, and detailing Sabatier's theory of the cause and peculiarities of the blood.

Dr. Edward W. Murphy, one of the Vice-Presidents, then brought before the notice of the Society the details of some interesting cases, and took occasion to make some general observations on the utility of an Obstetrical Society, one which appeared at the present time particularly desirable. He proceeded to observe, that "in the present day one must be blind indeed, who cannot perceive throughout the whole of society a busy movement, by which all objects, whether for good or for evil, are sought to be effected by united strength. Whether the desired improvement be of a political or of a religious character, whether it affect the interests of philosophy or of literature, whether it be the study of the abstract sciences or the cultivation of the arts, whether it be the observation of the operations of nature, or a knowledge of those causes which interfere with or derange them, all are sought to be accomplished by means of association; we find medicine thus yielding to the general influence, and seeking its advancement by becoming a part of the social system; societies start into existence to examine its different branches, and to develop its principles, rather by accumulating facts, than by regarding theories constructed upon the narrow basis of individual experience. A change so important in the mode of investigating medical subjects of necessity produces an equally important alteration in its character; in place of being, as one of the occult sciences, only to be estimated by the mysterious wisdom of its professors, it courts simplicity; it throws aside the mystical disguise which formerly enveloped it, and seeks to prove its perfection by unveiling itself to the most minute examination of its several parts. A change also in the results which follow may already be observed. The age of theories is fast moving by, and the laws of the animal economy are beginning to be derived

from an analysis of the largest possible number of facts. These facts are only to be obtained by the united exertions of individuals, each bringing his quota of experience to the general aggregate, and thus industry, not ingenuity, becomes valuable, because like his little prototype,

“Ore trahit quodcunque potest atque addit acervo.”

Hence it is found that such results are best accomplished, not by one, but by many societies; not by a concentration, but by a division of labour; and perhaps it may be considered as an evidence of the increased attention which medicine receives, that a new society springs up for the study of some particular division of it. When I find in this city societies for almost every purpose, and our scientific institutions emulating each other in their endeavours to promote improvement in the department over which they are placed, the natural sciences not merely fostered by these great leading establishments, but receiving especial attention from societies for the study of geology, zoology, and natural history; the medical not alone giving a new impulse to the colleges intended for their protection, but furnishing materials for a Medical Association, a Surgical Society, a Medico-Chirurgical Society, and though last, not least, a Pathological Society, all active and all having enough to occupy them, I need hardly add I feel a high gratification in being able to address an Obstetrical Society, assembled for the cultivation of a branch of medicine to which I am naturally attached, and thus contributing its share to the general light which, in the present day, medical subjects receive.

When the great opportunities which this city affords for the study of midwifery are considered, it is reasonable to expect that such a society, if conducted with energy and zeal, made the medium of the many important facts which so frequently occur, and which too often pass unnoticed, must not only prosper as regards itself, but be a powerful means of elevating the character of midwifery in Dublin to a station which it so justly merits; a character, which, though long appreciated here, is only beginning to be known elsewhere:—a partial advantage, for which we are indebted to the industry and talents of a very few of our more distinguished brethren, who, by the lustre of their names, have in some degree dispelled the obscurity in which hitherto we have been involved, but which, to be improved, requires to be supported by the exertions of *all* who have it in their power to bring new facts before the notice of the profession. I feel, therefore, the less hesitation in contributing, even in the most trifling way, to so useful a purpose, and shall detail to the society some cases which may be considered interesting, because they are seldom met with, and are exceptions to the general rule.

Case of Extra-uterine Pregnancy.—C. M'R., about five months previous to her admission into the Lying-in Hospital, had some hæmorrhage from the vagina, and as she supposed that she had been pregnant, and had discharged some coagula, she was told she had aborted.

She still suffered much uneasiness from tumour in the hypogastrium, which first led her to think she was pregnant, and which remained of the same size as before the hæmorrhage.

Nothing could be learned from an examination of the tumour itself; as to its nature, it was divisible into two portions, the large occupying the right, and the smaller the left iliac regions; the os tincæ was just as in the unimpregnated state; for the three preceding months the menses had ceased, nor was there any discharge, excepting the hæmorrhage stated. The stethoscope only indicated a general, undefined bruit, over the tumour. She had afterwards been admitted into Sir P. Dun's Hospital, from which, in consequence of severe pains, like labour pains, she was again sent to the Lying-in Hospital. The tumour had increased considerably, being nearly the size of the gravid uterus, at the full period; it still preserved its irregularity of surface. The larger portion occupying the whole of the right side and centre of the abdomen, the smaller the left; each divided by a distinct line of separation, running obliquely upwards to the left side. The os tincæ remained just in the same state as in the former examination. The symptoms which presented themselves were different from the ordinary order of labour; her pulse was 120 and weak, respiration laboured, and what were supposed to be her pains, came on irregularly, like severe cramps, accompanied by violent retching; her legs were œdematous. Several means were used to allay the extreme irritation of her stomach, without effect: the warm bath appeared to be the only thing which gave her relief; while in it she was easy, and after being removed, had some sleep, nor did the retching return until the following day. The bath was again tried without effect, and soon after she was taken out of it her pulse could scarcely be felt, her countenance was quite blanched, respiration laboured, great restlessness, with ineffectual attempts to retch; there was no appearance of hæmorrhage from the vagina, but notwithstanding the free use of stimulants she continued to sink, and died in about twelve hours.

Autopsy.—Eight hours after death the body was examined. On opening the abdomen, a quantity of fluid blood and serum escaped, the intestines were pushed up by a tumour which occupied the whole inferior part of the abdomen, a mass of coagula concealed the body and lower extremities of a foetus about the eighth month, which passed through an extensive rent in the left side of the tumour; putrescency had commenced in the foetus. Neither the left ovary or fallopian tube could be found, and but a small portion of the round ligament, close to the ring, which could not be traced to any distance. On the right side, the round ligament stretched obliquely across the tumour, and was lost towards the upper part, the lower portion of the fallopian tube was free, the upper bound down upon the tumour; these gave a clue to the uterus itself, of which the situation was by no means evident. Its shape and position were completely altered, it passed obliquely across the tumour, in a direction from right to left, being greatly lengthened and drawn out into a long, narrow, pisiform shape; its posterior and left surface was closely adherent to the cyst; a

section was made longitudinally through it, and its internal surface was found smooth, florid, and without any trace of deciduous membrane; the fallopian tube opened only on the right side, the orifice surrounded by small granules, resembling fat. Immediately below the fundus, the uterus was divided completely through, and the cavity of the cyst exposed; it contained the head and upper portion of the foetus, with a globular mass, over the surface of which the vessels of the funis were separately distributed; when divided, its section resembled the spleen, but some portion evidently consisted of coagula.

The fallopian tube being imperforate on the left side, the ovum appears to have been arrested just at its entrance into the uterus, by which the outer layer of uterine fibres became engaged in the formation of the sac, which, as it increased in size, raised the peritoneum from the uterus and its appendages, included the whole of the left side and back of the uterus in its parietes, and gave rise to the remarkable appearance which the uterus presented; the cyst enlarging from the left to the right side, while the uterus, greatly prolonged, stretched across it, obliquely, in the opposite direction, like a thick belt, dividing the tumour into a larger right, and left smaller portion.

A Case of Ruptured Uterus treated with Opium.—Mrs. C., the wife of a dairyman, had been in labour for her seventh child. All her previous labours were favourable but the last, which was tedious, and one in which she stated “an instrument” was obliged to be used. The child was born living. At this time, the midwife reported, that her pains had ceased for some time, and while expecting their return, she observed her appearance to change; that she looked “very ill,” and getting alarmed, she sent for assistance.

She was lying on her left side, quite tranquilly, her countenance pallid and sharpened, her pulse *full*, I might almost say strong, and but slightly accelerated. There was no hæmorrhage from the vagina. On making an examination, the head, which was in the cavity of the pelvis, slightly receded. The abdominal parietes were thin, so that the partially contracted uterus was readily defined, lying in the right hypogastrium; on the opposite side the limbs of the child could be distinctly felt. The case was evident, and (at 11 o'clock, P. M., Oct. 3,) she was delivered of a still-born child, by the forceps, without the least difficulty. After the child was removed, I introduced my hand to remove the placenta, which was lying in the abdomen; a large rent was discovered on the left side of the uterus, and in removing the placenta, it was found impossible to prevent the intestines from slipping down into the vagina; a portion was left in the opening. Excepting such coagula as came with the placenta, the hæmorrhage was trifling; a bandage was then applied, and she was ordered three grains of solid opium, one to be given every hour until rest was procured. These directions were neglected until the following morning, when she was given one pill; nevertheless, she lay perfectly quiet during the night, but did not sleep. She was then ordered the following mixture: \mathcal{R} . Aquæ font. \mathfrak{z} vj.; Liq. Opii sed gutt.

xl.; Tinct. Hyoscam. 3j.; Syrupi. 3ij. M. ft. Mistura. Cochlear. amplum omni horâ sumat.

During the day she dozed at intervals; in the evening pulse 96; abdomen free from pain on pressure, but tympanitic.

Oct. 5th. Pulse 98, full; tongue clean; tenderness in the abdomen; slept tolerably during the night; passed a good deal of turbid urine. Twenty-four leeches were applied to the abdomen, followed by fomentations, which gave immediate relief; the tenderness disappeared, and she felt quite easy. Mixture continued.

6th. There was an evident improvement; abdomen less tympanitic, bearing pressure every where, except in the right ilium, where there was still some tenderness, but relieved by fomentations alone; she passed water freely, and had as yet no evacuation from the bowels. Mixture continued.

7th. Passed a very restless night; severe retching, throwing up dark green bile from her stomach, with severe pains through the abdomen. Twenty-four leeches applied; fomentations, and saline effervescing mixture with Rochelle salt every hour; after which she had one natural motion, and could bear the pressure of the hand every where over the abdomen, except in the left hypogastrium. Twelve leeches applied, followed by fomentations, and an anodyne draught containing fifteen drops of Battley's solution. The effervescing mixture was ordered to be repeated on the following morning.

8th. Passed another restless night; violent spasms shooting through the diaphragm, with dyspnœa; pulse 120; very feeble. Ordered wine in small quantities, which being rejected, was changed for cold chicken broth, which remained on her stomach. The sedative mixture was suspended, which up to this time had been continued regularly, excepting while the effervescing mixture was given. The anodyne draught repeated.

9th. The pains gone; slept little; pulse 120, weak; wine given cautiously, which remained; sedative mixture renewed; a table spoonful every third hour; cold chicken broth.

From this period a progressive improvement was evident to the

13th. The abdomen still tumid, but without pain; pulse 86, full. The bowels acted freely to the saline mixture; pains occasionally occurred in the abdomen, which were always relieved by a simple emollient enema. The sedative mixture was continued, but at longer intervals.

14th. Slept quietly during the night; pulse 90, soft; abdomen full, but not tender; her bowels not having been moved, she was ordered Ol. Ricini 3ij. in Aquæ Menth. Pip. 3vj. to be repeated in four hours, if necessary.

10 o'clock P. M. Both draughts had been given; but I was surprised to find a most unexpected change in the symptoms since morning. She was bathed in a cold clammy perspiration; pulse scarcely to be felt; diarrhœa; surface and extremities cold. Seeking for some explanation for such an unlooked for result, I found that much of it was attributable to very great indiscretion on the

part of her friends, who, making merry in consequence of what they wished to suppose a complete recovery, had sufficient wisdom to cut off all chance of it by having a dinner and all the *et ceteras* in the sick chamber. She complained much of the noise and of the heated air of the room. She sunk rapidly, and died the following night, exactly twelve days since the accident. No post mortem examination was admitted.

This case appeared interesting. 1st. As an additional confirmation of an opinion, which I had long considered worthy of serious attention, viz., that ruptured uterus is much more likely to be the effect of injury produced in a former labour, than the result of long continued labour. 2ndly. As another instance of such cases in which there was very little constitutional disturbance, though the injury was manifestly extensive. 3rdly. As being an experiment in treatment. From the commencement, opium had been given in the form supposed to be best calculated to procure its sedative effect, which, with local depletion and fomentation, to subdue the uterine inflammation, was the principal treatment used. No purgative was given until the fourth day, and of the mildest description, which acted sufficiently.

The effect of opium, in lesion of a very similar character, under the skilful management of Dr. Stokes, induced me to make this trial, and when it is considered that, with an occasional check, the symptoms progressively improved until the sudden alteration which occurred on the 14th, when there was quite sufficient cause to explain this change, I confess that notwithstanding the unfavourable termination, there appears to me sufficient grounds to justify its free use in this most hopeless of obstetric difficulties.

Congenital Hernia of the Diaphragm, with a Portion of the small Intestines in the left Thoracic Cavity.—M. C., after a labour of moderate duration, was delivered of a still-born child. There was no difficulty in the labour, nor any apparent cause for such a result. The heart was pulsating strongly, rather to the right side, but not the slightest attempt at respiration; every effort used to excite it failed. The child was rather above the average size, both wrists distorted, and had spina bifida.

After death, on opening the thorax and abdomen, the cause was at once explained. The whole of the left thoracic cavity was filled with the small intestines, the development of the lung on that side being arrested almost at its commencement; the heart was larger than usual, nearly in its natural situation. The right lung was of the ordinary size, having the inferior lobe in close contact with the suprarenal capsule; the diaphragm was deficient posteriorly, but much more on the left than on the right side.

Dropsy of the Ovum.—A. K., æt. 23, had a tedious labour, produced by over-distention of the uterus, by the waters; the external labia were swollen from serous infiltration. The membranes were remarkably tough and unyielding; when ruptured, an immense discharge of the liquor amnii took place. Strong and regular pains soon succeeded, and in about an hour she was delivered of a still-born

child, completely anasarcaous, every point of the skin pitting. The placenta was expelled with a less discharge of blood than usual, mixed with a great deal of serum; it was twice the usual size, infiltrated throughout, and when placed in water, the distribution of its vessels could be observed beautifully dissected. After delivery, the uterus continued to discharge a quantity of serum with the lochia, the œdema subsided, and she was discharged well in about ten days.

About six hours after birth the child was examined. There was fluid in all the cavities; brain, heart, lungs, abdomen, the stomach and intestines were much smaller than usual, the latter containing scarcely any meconium. On the surface of the liver were several small circular patches, about the size of a silver fourpence, the centres depressed, margins red and vascular. The remaining viscera were as usual.

Dr. Forster, of New York, then communicated a case, in which the duration of pregnancy was ascertained with accuracy. The patient was the wife of a seaman. Her husband had arrived in Dublin on the 15th of March, 1838, and had left again on the 18th. She was taken in labour on the 26th December, so that the duration of pregnancy was 283 or 285 days. It was a first pregnancy, and the patient had not menstruated since the connexion, which took place about a fortnight after the last appearance of the catamenia. There was no reason to suspect deception.

Dr. Nixon mentioned a case he met with about two years ago: it was that of a woman, who, on consulting him with respect to her health, named not only the day, but spoke with confidence of the hour at which her labour would occur. Struck by her apparent conviction that such would be the case, he was led to enquire the grounds of her reasons for so thinking, when she detailed the following particulars:

Her husband, who was a sailor, had been absent for some months; he returned to Dublin on a particular day, and passed that night at home. The following day, while he was assisting in the discharge of the cargo of his vessel, a quarrel ensued between himself and one of the quay porters, whom he struck and killed. The sailor was immediately arrested, thrown into prison, tried, and transported. No further intercourse took place between him and his wife, hence she was induced to date the period of her confinement to be nine calendar months from the night of her husband's visit. Dr. Nixon, anxious to learn the result, made subsequent inquiries after the woman, and found that her predictions were very nearly verified, as she took her labour within six hours, and was actually delivered within twelve hours of the period she had foretold.

7th March.

DR. EDWARD W. MURPHY (one of the Vice-Presidents) in the Chair.

Mr. Ringland read a paper on Labour rendered tedious or imprac-

licable by anomalous Conditions of the Pelvis. He conceived that the cause of delay, with regard to the form of the pelvis, might be divided into three heads, an enlarged, a contracted, and a distorted condition of that structure. In the first, the uterus descends within the cavity of the pelvis, preventing the performance of the functions of the bladder and rectum. The cervix becomes impacted, inflammation sets in, producing œdema of the os uteri and lower extremities. In such a case, he advocated the use of small and repeated doses of tartar emetic, opium, bleeding and the warm bath, and, under certain circumstances, mechanical support.

Under the head of contracted pelvis, he enumerated not only those cases in which absolute contraction of the aperture in all its dimensions exists, but those also in which there is found a disproportion between the head of the child and the unoccupied space through which it has to pass. He was of opinion that the forceps should not be used, where there does not evidently exist sufficient space for their application without the danger of injuring the soft parts of the mother; and noticed cases in which the long forceps was successfully employed, where the contraction was at the brim of the pelvis. The next resource, the reduction of the foetal head, he considered necessary only where the conjugate diameter is less than three inches. In such a case he denied the propriety of giving ergot of rye. He strongly recommended delivery by turning, where there is but slight contraction, and yet there does not exist sufficient space for the application of the forceps.

He next turned to the distorted condition of the pelvis, which may arise from any of the following causes: rachitis, malacosteon, exostosis, steatomatous tumours, fractures of the bones of the pelvis, absence of a portion of the sacrum, and dislocation of the thigh bones. Having pointed out the distinctions between rachitis and mollities, he exhibited the deformities produced by each, and then noticed the resources of art in such cases, namely the forceps, the crotchet, and in the more lamentable forms, the Cæsarean section, and concluded by strongly advocating the induction of premature labour in such instances, as a means of saving the mother, and at the same time of affording a chance of safety to the child.

Dr. Churchill then read a Report of the Western Lying-in Hospital, which has already appeared in this Journal.

A communication was then read from Mr. Thornhill, of Skerries, in which he detailed a case exemplifying the rapidity with which opium appears in the milk when given to a mother. It was that of a lady, who nursed her infant an hour after taking mxx . of the tincture of opium. The child immediately fell asleep, and remained so for forty-three hours.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY.

(CONTINUED.)

Fifteenth Meeting, March 16, 1839.

MR. CUSACK in the Chair.

1. *Fusiform Dilatation of the Sub-clavian Artery. Arrest of Development of the first Ribs.*—Mr. Adams exhibited the artery in this case, which presented the appearances of aneurism by dilatation. An ovoid swelling, of about the size of a pigeon's egg, occupied the artery, in its third stage. At the left side, the first rib was not two inches in length, and much resembled in form the metacarpal phalanx of a thumb. In front of its distal extremity ran the subclavian artery, supported by a bony elevation of the second rib; on the right side, the first rib was somewhat longer, but curved and slender, and it supported the artery; it was not more than two inches and a quarter in length.

The patient died from inflammation of the lungs, brought on by exposure to cold. Mr. Adams and Dr. Hutton had examined him two years and a half previously, and the aneurismal tumour was then of the size it presented at the time of death.

According to Meckel, arrest of development of the rib has been only met with in the lower ribs, and most commonly both ribs are more or less deficient. In this case the contrary was the fact, the arrest of development being in the first rib, and predominating on one side of the thorax. (*Museum, Richmond Hospital.*)

2. *Chronic Disease of the Larynx, with interstitial Absorption of a large Portion of the Cricoid Cartilage.*—Mr. Adams next presented the larynx in this case, with casts and drawings of the appearances. The mucous membrane of the larynx was thickened, vascular, and irregular on its surface. The entire annulus of the cricoid cartilage was absent; there was no evidence that it had ever been expectorated through any internal opening. The symptoms in this case were severe pain on pressure in the region of the cricoid, with great difficulty in respiration, as well in *expiration* as *inspiration*, and occurring in paroxysms. Tracheotomy was performed, and the patient lived six weeks after the operation, and died of bronchitis. The patient breathed freely through the opening in the trachea for three weeks, but after this time the orifice began to close, and became so narrow that it was difficult to introduce a tube of a small diameter. The absence of the cricoid allowed of great narrowing of the calibre of the tube from the larynx downwards. The trachea in its upper part was reduced in its transverse diameter to half an inch. (*Museum, Richmond Hospital.*)

3. *Rapid and General Dilatation of the Air Cells.*—Dr. Stokes exhibited the recent parts in this case, and remarked that the lung presented appearances which he had never before observed, unless as the result of chronic disease. The volume of both lungs was greatly increased; they had a soft elastic feel, and were of a light yellowish colour, ap-

pearing remarkably bloodless. There was no evidence of any rupture of the cells—no subpleural vesicles existing; the lung did not crepitate on pressure, and on being cut exhibited a pale dry and anemic appearance. In some places a slight arterial injection could be seen.

A coagulum of remarkable firmness extended from the right ventricle through the orifice of the pulmonary artery. This coagulum ramified through almost every branch of the artery that could be traced, the division of the coagulum being always below that of the artery, in some places for as much as an inch. There was no evidence of inflammation of the vessel, the lining membrane of which was rather pale.

In this case the patient died within a month from his first attack of bronchitis. The disease was neglected and exasperated; and when the patient was first seen by Dr. Stokes, his appearance was that of a person dying of suffocation. He was relieved to a certain degree by treatment, but exposed himself to a new attack, under which he sunk. The physical signs were those of universal, equable, and extreme dilatation of the cells of both lungs.

4. *Aneurism of the ascending Aorta, extending to the right side. Dissecting Aneurism of the left Ventricle.*—Dr. Stokes exhibited the recent parts in this case. The aneurism sprung from the right side of the ascending aorta, and represented a pouch with a narrow neck, stretching across the mesian line; it was of the size of a hen's egg. The heart was greatly hypertrophied, particularly the left ventricle; yet no increased impulse had been observed during life. At the sinus of one of the aortic valves the membrane had given way, and a small dissecting aneurism, similar to those already observed by Mr. Smith, Dr. Harrison, and Dr. Hanna, was found making its way along the wall of the ventricle. (*Museum, Park-street.*)

5. *Compression of the Trachea and Œsophagus by a ring of Cancerous Tumours. Cancerous Deposits in the Bronchial Tubes.*—Dr. Stokes presented the lungs, trachea, and larynx in this case. Immediately above the bifurcation of the trachea, there existed five tumours, varying from the size of a pigeon's to that of a hen's egg, formed of cancerous matter, presenting various appearances. These tumours were all encysted; some on being punctured allowed a great quantity of white creamy fluid to escape, others contained a dark grumous liquid, while the contents of one was semifluid. The lungs contained many tumours of the same kind, and presenting the same variety of appearances. There was no tubercle, but in various parts of the pulmonary tissue were seen patches infiltrated with a white fluid quite analogous to that observed in some of the tumours. Some of these portions were more than an inch and a half in length and half an inch in depth. Many of the bronchial tubes contained deposits of white cancerous matter in the semifluid state. It did not adhere with any force to the mucous membrane, which was of a bluish colour. This white matter had a little more consistence than that in some of the encysted tumours. There was no trace of tubercle in the lung.

The patient died in the Meath Hospital, having been affected by severe dyspnœa and tracheal stridor, without alteration of voice. (*Museum, Park-street.*)

6. *Fistulous Opening upon each Side of the Neck, communicating with the Œsophagus.*—Mr. Cusack presented the Œsophagus taken from the body of a man who had been affected with venereal, and had used mercury irregularly. He was admitted into Stevens' Hospital in a broken down state of health; there was a remarkable fulness on one side of the neck, with two tumours, one on each side of the mesial line, above which were ulcers, apparently of a venereal character; another existed near the clavicle. The patient improved under the use of sarsaparilla; a small quantity of mercury was then exhibited; and subsequently it was found that the greater part of his food and drink escaped through the fistula in the neck. The patient died suddenly, with symptoms of peritonitis from perforation. A perforating ulcer was found in the small intestines; the ulcers in the neck were found to communicate with the Œsophagus by two openings, around which the appearances of disease in the tube were much slighter than could be expected in a case of the kind. Mr. Cusack, however, believed that the ulcerative process had begun in the Œsophagus; the trachea was healthy. Mr. Cusack was not aware that any similar case was upon record. (*Museum, Park-street.*)

7. *Intussusception of the lower Portion of the Ileum into the Cæcum.*—Mr. Mayne exhibited the recent parts in this case, taken from a child who had for some time laboured under constipation, followed by diarrhœa and convulsions. The bowels became again constipated, and obstinate vomiting set in. There was no remarkable tumefaction of the abdomen; but over the seat of invagination there was exquisite tenderness on pressure. Leeches, mercury, and purgatives were employed, without relief; the child died on the fifth day. About two inches of the small intestine were found projected into the cæcum, in which it was firmly fixed. Mr. Mayne remarked upon the case, as illustrative of the sympathy of the cerebro-spinal system with the local affection of the bowels, and upon the inutility of purgative treatment in such a case. (*Museum, Richmond Hospital School.*)

8. *Condensation of the Cellular Tissue in Infants.*—Dr. Evory Kennedy said he had an opportunity of exhibiting a form of disease which had for a long time occupied the attention of the profession on the Continent, but had not been the subject of much investigation in this country, probably from the circumstance of being comparatively rare; it was known by the name of *condensation* (or *endurcissement*) of the cellular tissue, and was observed almost exclusively in new-born children. It consisted in a remarkable hardening of the whole or a portion of the cellular substance, generally commencing in the hands or feet, and gradually extending to the abdomen and face, accompanied by coldness and paleness of the skin. In some points it bears a resemblance to the phlegmasia alba dolens which affects females after delivery. It is considered by some to arise from cold, followed by obstruction of the transpiratory vessels and infiltration

into the cellular tissue of a gelatinous fluid. Others think that there is no infiltration, and that it is merely a condensation of the cellular tissue, without any extravasation. In some instances but very rarely it terminates in suppuration; in fact, this has been a disputed point among those who have examined the subject. The case, however, exhibited by Dr. Kennedy would be sufficient to set the matter at rest, for a small purulent deposit existed in the cellular tissue under the abdominal integuments. Some look upon this disease as the consequence of syphilis; others, among whom is Breschet, think that it depends on a peculiar state of the circulation connected with a patulous condition of the foramen ovale, and disease of the lung. Both opinions were supported to a certain extent by the case before him, for the child presented some of the phenomena observed in cases of venereal, whilst there was a highly developed state of one lung, with carnification of the other. It was an affection of a very obscure description, and required further investigation.

9. *Contamination of the Fœtus by Syphilis.*—The next specimen was one of venereal taint in the new-born infant; it was interesting as an example of an eruption closely resembling purpura. The case was one clearly venereal, and the infant had been born with the purple spots which were scattered over the body, whilst, at the time of its birth, the mother was labouring under ulceration of the larynx and necrosis of the tibia. The child lived only a few hours after birth. The case was an example of a form of venereal eruption which he had seldom seen.

Sixteenth Meeting, March 23rd.

ABRAHAM COLLES, M. D., in the Chair.

1. *Ulceration of the Larynx.*—Dr. Bigger exhibited a larynx, the ventricles of which were filled with lymph and purulent matter; the mucous membrane was extensively destroyed by ulceration, particularly over the cricoid cartilage and neighbouring portion of the alæ of the thyroid; there were extensive adhesions between the pulmonary and costal pleuræ; the lungs were emphysematous along their edges; the upper portions contained several small tubercular abscesses, while the lower portions were in a state of purulent infiltration. The subject of the case was an Italian, æt. 47, who supported himself by singing and playing on musical instruments; he was remarkable for the skill with which he counterfeited the notes of various singing birds. He was seen for the first time by Dr. Bigger, upon the evening before his death, and had been ill for ten days; he was labouring under the most intense dyspnœa; the usual signs of pneumonia in both lungs were present; his voice, however, was scarcely at all affected; he stated that he had been subject to an affection of the larynx for many years.

Dr. Bigger also presented a specimen of hydrocele taken from the same subject; the testis lay at the bottom of the sac.

2. *Monstrous Fœtus.*—Dr. Montgomery exhibited a cast and drawing, (for which he was indebted to Dr. Connor, of the Carlow

Fever Hospital,) of a foetus with a double head; the mother was attacked with labour pains on the 3rd March, and after an hour the breech presented; on bringing down the arms, Dr. Connor discovered two mouths; the delivery of the double head was difficult and tedious; the child died about twelve days after birth; there was only one pair of lungs, but two large tracheæ, the division of which was obscured by a large heart, containing two left ventricles, from each of which an aorta arose and gave off three branches, viz. two carotids and one subclavian; there was only one right ventricle, with two pulmonary arteries; there were two spines, which were united from the sacrum as high as the sixth cervical vertebra, where they separated for the heads; the œsophagus was double, and there were two stomachs, terminating, however, in one duodenum; the rest of the alimentary canal was single. Dr. Montgomery said that the case was interesting as an example of monstrosity arising from the cohesion of germs, in which certain parts of the monster are complete, perfect, and single, while others are double, but also more or less perfect. (*Museum, Sir P. Dun's Hospital.*)

3. *Fragilitas Ossium*.—Mr. Adams exhibited the recently removed parts in this case, the subject of which was a man, æt. 41, who had been an inmate of the House of Industry for five years, having been compelled to abandon his employment, in consequence of severe pains in his legs and thighs; he was bed-ridden for two years before his death; upon one occasion, the left femur broke across in the centre from slight exertion; while raising himself in bed, the olecranon was fractured, and afterwards he got a fracture through the neck and trochanter of the right femur; during the latter part of his existence he suffered great agony, and died worn out by diarrhœa. Upon examination the muscles were found wasted, and containing between their fibres a soft unhealthy adeps; the bones were soft, and contained a large quantity of oily matter; the left femur was broken in its lower third and in its centre; the greater trochanter was separated from the shaft, and the cervix broken within the capsule, and absorbed completely; the two fractures which occupied the shaft of the bone had undergone osseous union, but with great overlapping and consequent shortening of the limb; the fracture of the right femur ran through the trochanter, it was comminuted, and extended within the capsule; an immense quantity of osseous matter, extremely porous and vascular in its texture, was thrown out on the entire of the left femur, and bony spiculæ projected from it among the muscles; a large plate of bone was found in the glutæus medius.

Mr. Adams detailed and exhibited specimens of other cases similar to the above, and contrasted them with the remarkable example of fragilitas ossium exhibited by Mr. Smith at a former meeting of the Society. (*Museum, Richmond Hospital.*)

4. *Morbus Coxæ Senilis*.—Dr. Colles presented examples of this disease in both joints of the same individual; they were taken from the body of the late Dr. Percival, who, in giving his last directions to his family, requested that any portion of his remains which might

be made available to the cause of science, should be laid before the Society. Dr. Colles said, he was sure that every person must take a deep interest in any thing connected with Dr. Percival, a man who, by establishing the foundation of a School of Physic at Sir Patrick Dun's Hospital, and by many other important services, had done so much for the advancement of medicine. Dr. Colles had attended him for a long period, but was indebted chiefly to his intimate friend, Dr. Croker, for an account of the first appearance of the malady, under which he suffered so long and so patiently. The first thing noticed was a swelling in his hands of a very peculiar kind; to this he chose to apply a mild term, and called it gout; but Dr. Colles, having examined the hands with great care, did not think the disease was gout. About the latter end of the year 1820, he first began to complain of pain in his right hip; he applied a blister over the trochanter, and remained quiet for a fortnight. The disease, however, soon became much more troublesome, and when he attempted, on one occasion to walk without the aid of his crutch, at a levee at the Castle, during the visit of George IV. to this country, he appeared so much distressed, that his Majesty held out his hand to support him.

The appearances of the joint, as exhibited by Dr. Colles were quite characteristic of the disease; there was the usual flattening of the heads of the bones, the ivory deposit replacing the absorbed cartilage; a similar deposit upon the acetabulum: total absence of the ligamentum teres; shortening of the neck of the femur, and osseous depositions in various situations; one of them lay in the front of the right acetabulum, and the anterior crural nerve, flattened, and redder than natural, passed over it; this appeared to explain the great amount of suffering experienced by Dr. Percival, during the latter part of his life; he could not prevent the right limb from crossing over the left; in this position he found some degree of ease, and could not remove the limb from it without considerable pain; the right limb was shorter than the left. Upon removing the left femur from the socket, the head was found intensely red and vascular, and a number of small pieces of bone were found connected with the capsule; there were none loose in the joint, as was supposed from the very peculiar grating or rattling sound heard during life, whenever the limb was moved; both thigh bones were remarkably heavy and dense. Dr. Colles remarked that *morbus coxæ senilis* is a disease frequently observed among the labouring classes, indeed so much so, that it might be supposed to be the result of bodily fatigue and over exertion. These causes, however, could not operate in Dr. Percival's case; even in his youth he had never indulged in violent or active exercise, and it might be truly said of him, that scarcely any man, similarly circumstanced, had walked less. Except to take a turn in his garden occasionally, or cross a street now and then, he seldom walked. Neither could it be said to arise from exposure to wet or cold, for his station in life exempted him from such risks. Nor could it be said to arise from rheumatism, for there was no sign of rheumatism in any other part of the body. Was it then from gout? Dr. Colles did not think

it was; he had disease of the hip joint, but this was a disease which Dr. Colles had not observed in gouty persons. There were some circumstances in this case extremely curious. One of these was the total absence of the cartilage of incrustation; not a particle of which could be found on the head of the bone, or in the acetabulum. Both were covered by the same ivory deposit. Some persons think that this porcellaneous or ivory deposit is peculiar to morbus coxæ senilis. Dr. Colles did not think this was the fact; he had seen the same deposit in other joints, in cases of unreduced dislocation.

Every surgeon knows, that in diseases of bone, in young children, there is occasionally absorption of the cartilage of incrustation, but then it is never replaced by ivory deposit, as in cases of morbus coxæ senilis. Another remarkable fact connected with the disease was, that where the ivory deposit does not exist, there is a deposit of ligamentous substance. Finally, it was worthy of remark, that two very opposite processes were found going on at the same time, viz. absorption of the old bone and its cartilage of incrustation, with deposition of new bony matter. The latter Dr. Colles believed to be in some measure the cause of the suffering experienced by the patient. In many specimens of morbus coxæ senilis, we observe a great number of ligamentous productions, which dip down into small cavities in the head of the bone, and seem as if they were absorbing the bony particles. It has been observed that in some instances considerable pain is experienced by the patient. Dr. Percival suffered greatly from it. He went through his professional duties for some years after the disease commenced, but with great discomfort from the agony produced by motion. It appears that the left limb was not affected until the year 1834, so that there was a considerable difference as to the date of the first appearance of the disease in both limbs. With respect to the cause of pain, Dr. Colles said he had not exactly made up his mind; perhaps it might be partly owing to the absence of the cartilage of incrustation, and partly to the presence of the ligamentous productions already alluded to. He did not think that genuine inflammation had any thing to do with it, for nothing like pus or lymph had ever been found in the affected joints. If it be inflammation, it has not the characters or consequences of true inflammatory action. The whole phenomena of the disease appeared to be nearly the reverse of morbus coxæ in the young. The only thing further he had to observe was, that, on examining the left extremity, it was observed that the femoral artery, where it passed over the forepart of the acetabulum, was very much ossified. How long this state of the vessel had existed he could not say. (*Museum, Trinity College School.*)

5. *Cancer of the Uterus.*—Dr. John Crampton exhibited a specimen of extensive cancerous disease of the uterus; the body of the organ was enlarged and indurated, while the os uteri and cervix were destroyed by cancerous ulceration: the liver contained a great number of tubercles analogous to those described by Dr. Farre; the right kidney was enlarged, and of a yellowish white colour. The subject of the case was a married woman, æt. 48, who had been admitted into the Whitworth Hospital in August, 1838, for an attack of

acute rheumatism ; she left the hospital in October, having got perfectly well under the use of mercury, which acted very severely upon her mouth ; she did not at this time complain of any uterine affection. She was re-admitted January 3th, 1839, with purulent and serous discharge from the vagina, incontinence of urine, and intense and lancinating pains in the regions of the uterus ; she lingered for six weeks, and died in great agony.

Seventeenth Meeting, March 30th.

MR. CARMICHAEL in the Chair.

1. *Encephaloid Disease of the Kidney*.—Mr. Mayne exhibited a kidney, the entire substance of which was converted into a mass of encephaloid structure ; it was greatly increased in size, being nearly as large as the right lobe of a healthy liver. The pelvis was enormously enlarged, and both it and the infundibula were filled with encephaloid matter, part of which was soft and semifluid ; the remainder firm, compact, and striated. The kidney also contained a number of cysts, some of which were filled with cerebriform matter, others with a substance resembling coagulated blood. The renal artery was pervious, but the vein was filled with cerebriform matter. The other abdominal viscera were healthy, but one of the lungs contained a number of tubercles varying in size, but all containing a matter similar to that which was found in the kidney. The individual from whom the specimen was taken was about 40 æt. ; he had been admitted, a few days before his death, into the Richmond Hospital, in a state of great emaciation and exhaustion, and could not give any account of the origin or progress of his illness. Mr. Mayne alluded to a case detailed by Cruveilhier, of a similar disease affecting one kidney, and accompanied by the deposition of tubercles in the lung. (*Museum, Richmond Hospital.*)

2. *Hydatids in the Heart*.—Mr. Ferrall exhibited a specimen of this rare affection. The septum ventriculosum contained six or seven hydatids, belonging to the class of cysticerci ; several were also contained in the ventricular parietes. The lungs were filled with miliary tubercles, and presented appearances characteristic of chronic pneumonia ; the liver was much enlarged, and of a deep red colour ; both kidneys were likewise hypertrophied, and presented exact specimens of what has been termed Bright's kidney. The patient from whom the preparations were obtained had stated that he had enjoyed good health until three months before his admission into St. Vincent's Hospital, but could not give any clear account of the origin or progress of his illness ; at the period of his admission, he had anasarca, ascites, and œdema of the lungs, with palpitation of the heart, and also albuminous urine. Mr. Ferrall considered the case remarkable for the extent to which important organs were involved, without any very obvious cause ; the man had been in good health three months before his death, and yet in this short space of time he had become universally anasarcaous, and the kidneys, liver, lungs, and heart had become diseased. (*Museum, St. Vincent's Hospital.*)

3. *Effusion of Blood into the Substance of the Brain.*—Dr. Greene exhibited a specimen of sanguineous extravasation into the right posterior lobe of the brain; the blood was coagulated, and the clot extended into the cornu ammonis, the surrounding cerebral substance being completely softened and discoloured. The patient was an adult female, who, while washing some linen, was suddenly seized with pain in the head and vertigo, and, after a few hours, with insensibility and coma, in which state she remained until the next day, when she recovered some slight degree of consciousness. She was admitted into hospital, with loss of intelligence, speech, and hearing; the left arm and leg were paralysed and insensible. Under treatment, she recovered a certain degree of sensibility and some slight power of motion; but, about the ninth day, she began to manifest symptoms of cerebral irritation: the scalp and face were hot; the carotid arteries pulsated strongly, and delirium was present. Upon the fifteenth day, an eschar formed over the sacrum, and spread rapidly; she died very soon afterwards. Dr. Greene considered that, in this case, there was most probably a very small vessel opened in the first instance, so that the effusion of blood being inconsiderable, the patient, under treatment, improved a little, but manifested the symptoms of cerebral irritation more decidedly, according as the extravasation became more considerable. Dr. Greene considered that this case supported the opinion of Cruveilhier, that the patient, who may have recovered from a primary apoplectic seizure, may subsequently die of cerebral irritation in about eight or ten days.

4. *Gangrene of the Lung.*—Dr. Stokes presented a specimen of gangrene of the lung, taken from the body of an old man who had for some months laboured under cough, emaciation, and foetid expectoration. When admitted into hospital, he was found to have a cavity in the right lung, and the heart was displaced towards the right side, in consequence of the diminished volume of the right lung. This symptom, Dr. Stokes remarked, had been observed in cases of chronic phthisis and cirrhosis, but not, he believed, in gangrene of the lung. Post mortem examination detected a large gangrenous abscess in the upper portion of the right lung; superficial sloughs of various sizes were found upon many parts of the anterior surface of the lung. Dr. Stokes considered the case remarkable in many points of view; the formation of a gangrenous abscess below the clavicle, (in general the site of tubercular cavities;) the formation of superficial gangrenous sloughs; the diminution in volume of the right lung; and the dislocation of the heart to the right of the mesial line, were all remarkable features in the case.

5. *Chronic Rheumatic Arthritis of the Shoulder Joint.*—Mr. Adams exhibited an example of this disease affecting the bones of the shoulder joint; the muscles were atrophied, particularly the deltoid; the glenoid cavity was enlarged and altered in form; the glenoid ligament removed by absorption, and the tendon of the biceps muscle, detached from the glenoid cavity, adhered to the upper part of the bicipital groove; the head of the bone was likewise changed in form,

and the obliquity of its axis destroyed; the capsule was thickened, and all the structures of the joint were highly vascular in the recent state. The patient was *æt.* 55, and died of phthisis, in the Whitworth Hospital. When viewed in front, the joint had a wasted appearance, but when seen in profile it had a very remarkable breadth. The man could not raise the arm completely, and, when the joint was moved, a grating feel was perceptible. Mr. Adams considered the disease to be quite analogous to the affection of the hip joint described by Mr. Smith, under the name of *morbus coxæ senilis*, in the sixth volume of the Dublin Medical Journal, and stated that he had seen the affection in almost all the joints of the body, and that he considered it to be of an inflammatory nature. Mr. Adams remarked upon the close resemblance which the shoulder joint in this disease presents to what has been described as partial luxation of the head of the humerus. (*Museum Richmond Hospital School.*)

6. *Laryngismus Stridulus*.—Dr. Thomas Beatty exhibited the recent parts in this case; the rima glottidis was closed, so much so, that when the larynx was removed from the body, and held up between the eye and the light, there was not the slightest appearance of an aperture; the thymus gland was free from disease; there was a considerable degree of subarachnoid effusion, with vascularity of the pia mater and cerebral congestion. The patient was *æt.* $2\frac{1}{2}$, and had suffered from the disease, in a greater or less degree, for twelve months, and at length died convulsed.

7. *Portion of a Lumbricus found in the Trachea*.—Dr. Bigger exhibited the larynx and trachea in this case; the latter contained a portion of a lumbricus lying at the bifurcation of the trachea, and passing down into the right bronchus; in the duodenum, close to the pylorus, a large lumbricus was found coiled on itself, which, when examined, was found to have lost a portion of its length, and appeared as if it had been divided about an inch from its tail. The patient was a child *æt.* eight months, who had suffered for about a fortnight or three weeks, from the symptoms of worms, for which small doses of cowhage followed by purgatives, were directed. The child died suddenly. The portion of the worm found in the trachea exactly corresponded in size with the deficiency observed in that found in the duodenum.

8. *Detachment of the Os Uteri*.—Dr. Kennedy exhibited a preparation of the os uteri which had been detached during labour. The subject of the case was a woman who had been delivered at the Lying-in Hospital, about fourteen days previously. About two or three hours before delivery, Dr. Kennedy was informed, by the pupil in attendance, that there was a tumour projecting from the os externum, which, upon examination, he found to be the os uteri, separated in two-thirds of its circumference. He divided the portion which still remained attached; its removal was not followed by any unfavourable symptoms, and the woman left the hospital on the ninth day. Dr. Kennedy alluded to Mr. Page Nicoll Scott's case, published in one of the columns of the *Medico-Chirurgical Transactions*. (*Museum, Lying-in Hospital.*)

Eighteenth Meeting, April 6th, 1839.

Mr. CUSACK in the Chair.

1. *Pneumonic Solidity of the Lung with Costal Indentations.*—Dr. John Crampton exhibited the lung of a female, who had lately died in the Hardwicke Hospital. The lower lobe was in Laennec's second stage of inflammation, and the upper in the first. Dr. Crampton said that in his opinion the indentations or markings of the ribs, to the mechanism of which the attention of the Society had lately been drawn by Dr. Stokes, was produced by the tumefaction of the lung; while at the same time its elasticity is diminished. The parts consequently yield to absorption.

2. *Conversion of the false Membranes of Pleuritis into Tubercle.*—Dr. Stokes exhibited drawings illustrative of this pathological condition. The case was that of an individual aged about thirty; he was a soldier, and had undergone repeated punishments in this country and also in the West Indies; he was imprisoned, when his health, which had been much broken before, gave way, and symptoms of pulmonary disease became developed; he was admitted into hospital with all the symptoms and signs of pneumo-thorax from fistula of the left lung, and softened tubercle in considerable quantity in both lungs; the perforation occurred six weeks before admission, and the patient lived three months from that period.

The sac of the empyema presented very different appearances when viewed on its interior and exterior aspect. Interiorly, the pleura was covered thickly with a deposition of a yellowish white lymph matter, with a remarkably variegated aspect and irregularly granular appearance; the deposition next the pleura was of a rose red colour, and that was as it were speckled over thickly with white and opaque masses of an irregular form; some roundish, others angular; some without any trace of vascularity, others deeply injected or almost ecchymosed. This appearance existed over the whole surface of the sac.

The lung and costal pleura being removed carefully, it was found that a vast number of flattened spheroidal masses of a yellowish white colour, and perfectly defined, were seen shining through the pleura; when examined on its costal or posterior surface. Their diameter varied from that of a split pea to that of a millet seed. They did not exist on the posterior surface of the pleura, but were evidently incorporated with the false membrane on its interior surface. The vascularity of a number of these masses was obvious.

Dr. Stokes referred to the observations of Laennec and Hodgkin on this very rare pathological condition; he agreed with Laennec that in such instances the tubercular matter was not secreted by the pleura, but produced by a specific degeneration of the false membrane itself. (*Museum, Park-street.*)

3. *Rheumatic Arthritis of the Elbow Joint.*—Mr. Adams, in drawing the attention of the Society to this disease, referred to the observations he had already made on the analogous affection of the

shoulder joint, and its similarity to the ordinary form of the morbus coxæ senilis. He hoped to be able to establish its existence in many other articulations, feeling assured that there was not one of the joints exempt from this disease.

The cast now on the table represented the appearance of the elbow joint in this disease. It was taken from a man who died about ten years ago in the Richmond Hospital; the enlargement of the bones was so great as to give the articulation more the appearance of a knee than an elbow joint; the heads of the bones were of an ivory hardness, and a vast number of free cartilaginous bodies existed in the cavity of the joint.

Mr. Adams next exhibited a wet preparation of the same disease, shewing the absorption of the cartilages, the ivory deposits, the cartilaginous bodies, and the floating fimbriæ in the cavity of the joint, which appearances he considered as the true characteristics of the disease; upwards of forty cartilaginous bodies, attached by long and slender membranous bands, were contained in this joint, which was presented to the museum of the hospital by Mr. Smith.

Mr. Adams exhibited another preparation and drawing of this disease, shewing the head of the radius of a globular form, and attached by a species of round ligament to the humerus. This was the third case of this curious change observed by Mr. Adams.

Mr. Adams presented a series of specimens illustrative of the disease in various stages. In some of them the head of the radius was not orbicular. He observed that he considered the term *usure*, or wearing of the cartilages, given to this disease by Cruveilhier, as inappropriate; for it is as much a disease of the bones as of the cartilages. The synovial membrane, cartilage, and bone are equally affected.

The disease was seldom recognized until it had made some progress, and was occasionally complicated with other affections, which made its diagnosis difficult. Mr. Adams mentioned a case in which it succeeded to a dislocation, which had never been reduced. In this case the patient had a greater degree of motion of the forearm than is usual. He could bend and almost extend the elbow joint, and perform supination and pronation to a considerable degree. (*Museum, Richmond Hospital.*)

4. *Extensive Ossification of the False Membranes in Pleuritis with Encysted Hydrothorax.*—Professor Harrison laid on the table the lungs of a man who had died with effusion into the left pleura, and congestion of both lungs. The right pleura exhibited evidences of having been formerly attacked with inflammation, and on its anterior face, a vast plate of bone, of great density, was discovered. The lung was covered by cellular adhesions, having a fibrous structure, along the course of which the ossific process seemed to have proceeded, so as to resemble the appearances observed in the growth of the bones of the infant's skull: very long and sharp spiculæ diverged in every direction. In the lower part of the left pleura, about a pint of clear fluid was found encysted. The walls of the cavity were strong and

polished, somewhat like those of an hydrocele. During life, dulness of sound and absence of respiration had been observed in this situation. (*Museum, Trinity College.*)

5. *Polypous Excrescences of the Mucous Membrane of the Stomach.*—Professor Harrison exhibited the stomach of the individual from whom the foregoing specimens had been taken, presenting vascular vegetations, or polypi, without any appearance of malignant action. Several small polypous tumours were found attached to the mucous membrane, and hanging down into the cavity of the stomach, by pedicles, like uterine polypi. They had the same tint as that of the mucous membrane of the stomach, and presented on their surfaces the orifices of several mucous follicles. These productions have been described by Baillie and Cruveilhier; according to the latter, they may prove dangerous by their mechanical action, particularly when they are seated near the pylorus. (*Museum, Trinity College.*)

6. *Separation of the Os Uteri during Delivery.*—Dr. E. Kennedy alluded to his communication on this subject at the last meeting of the Society. He now was able to present another example of separation of the os, which took place during labour. A third case had recently occurred in Dublin. In Dr. Kennedy's second case the labour was tedious. It was a first pregnancy, complicated with œdema of the os uteri, the anterior top of which was so much distended, as to render puncture with a lancet necessary. The operation, however, did not remove the turgescence of the os, which continued to descend before the head, until at length it gave way, and was completely separated. It was found necessary to deliver with instruments. The patient was attacked with peritonitis, and was then in considerable danger.

Nineteenth Meeting.

PROFESSOR GRAVES in the Chair.

1. *Strangulated Femoral Hernia, with Stercoraceous Abscess of the Groin.*—Dr. Macdonnell exhibited the intestines of a man who died from the effects of strangulated hernia. The strangulation had engaged a portion of the ileon an inch and a half above its termination, which was connected by strong adhesions to the sac. The strangulation, however, had not engaged the whole of the calibre of the intestine; the sac, with the portion of the intestine attached to it, was in a gangrenous condition; there was no effusion of lymph or serum in the cavity of the peritoneum.

A large gangrenous and stercoraceous abscess existed in the neighbourhood of the hernial tumour, extending down along the inner side of the thigh. This abscess communicated with the strangulated portion of intestine.

* In this case the patient recovered from the peritonitis, and subsequently adhesions formed in the neck of the uterus, so as to nearly close up its chamber. The adhesions were, however, separated, and the communication kept perfect by the introduction of bougies. She ultimately recovered.

The patient was an adult. The symptoms of strangulation existed for twenty-four hours before he applied for relief; the tumour was of the size of a small orange, and a considerable portion of it was reduced on his admission into hospital, but the patient did not experience any relief. Dr. Macdonnell deemed an operation necessary; but, before it could be performed, a remarkable alteration took place in the constitution of the patient: the vital powers rapidly declined. In twenty-four hours afterwards, however, a sudden and unexpected rally of the vital energies occurred, but as the symptoms of strangulation had disappeared, the operation was not performed. Fæcal evacuations took place, and no symptoms of gangrene manifested themselves; the hernial tumour, however, gradually and slowly enlarged, and symptoms of inflammation appeared at the upper and inner part of the thigh. At the expiration of two days, the tumour presented distinct fluctuation, and its coverings had become thin; after a short time, the tumour became fluid, and appeared to contain a quantity of air. On making an incision into it, sanious pus, mixed with air and fæces, escaped; the cellular tissue was gangrenous. The patient died on the twelfth day from the period of strangulation.

2. *Aneurism of the ascending Aorta, with Empyema of the right Pleura, and subsequent Tubercle of the Lungs*—Mr. Ferrall presented the recent parts in this case. The subject was a man of broken constitution, aged 53; he was admitted into St. Vincent's Hospital, July, 1838, labouring under acute pleuritis, with effusion of the right side; soon after, the heart was observed to be displaced towards the left side; he complained of pulsation and an undefinable sensation of pain in the left side of the chest, in a point corresponding to the junction of the third and fourth ribs with the sternum. The pleuritis was cured; but the patient returned again to the hospital, in October, complaining of pain in the same situation as before, with increased pulsation, and over this spot a distinct fremitus, accompanied with a double bruit de soufflet, was perceptible; the part being clear on percussion, and the respiratory murmur distinctly audible.

About three weeks before his death he was again admitted into the hospital, presenting the same phenomena, but with cough and evidences of tubercular softening in the upper portion of the right lung. The aorta, at its origin, was found dilated into a vast aneurismal tumour fourteen inches and a half in circumference, appended to which was a secondary pouch corresponding exactly to the spot where the pulsations had been observed during life; the aorta was extensively diseased, but Mr. Ferrall had traced the lining membrane of the artery over almost the entire surface of the sac; the left lung adhered to the anterior mediastinum, so as to overlap the heart and aneurismal tumour, which explained the clearness of sound on percussion, and the distinctness of the respiratory murmur over the tumour. The anatomical characters of the secondary aneurism were found upon maceration to be those of the *aneurisma herniosum* of Monro, Dupuytren, and Dubois, the atheromatous deposits being

perceptible in the same degree as they existed in the aorta. The existence of this form of aneurism has been doubted by different authorities.

Mr. Ferrall observed, that in this case the occurrence of empyema tended to facilitate the diagnosis of aneurism; the pulsations which had been felt at the sternal end of the fourth rib might have been mistaken for those of an hypertrophied heart, had not the displacement of the organ consequent on the pleuritic effusion proved that they could not have been produced by the heart itself; the clearness of sound and of respiratory murmur seemed to shew that the disease was not any malignant tumour of the lung, and Mr. Ferrall was thus led to the diagnosis of an aneurism of the ascending aorta. (*Museum, St. Vincent's Hospital.*)

3. *Great Enlargement of the Thymus Gland.*—Dr. Montgomery exhibited the thymus gland of a child, æt. eight months, who died suddenly with the symptoms of laryngismus stridulus; it was excessively vascular, and in some parts very much indurated. According to Haugsted, the weight and measurement of the thymus gland in an infant of that age are as follow:—length, two and a half inches; breadth, one and a half inches; weight twenty-seven grains. In Dr. Montgomery's case, the gland measured three one-fourth inches in length; two one-fourth inches in breadth; five-eighth of an inch in thickness, and weighed four drachms; the larynx presented no morbid appearance, but close to the commencement of the œsophagus were two small ulcers; the right ventricle of the heart was found, as Kopp has already remarked, empty and puckered; the veins of the neck were turgid, and a large quantity of serous effusion existed at the base of the brain. This child had been weaned at the age of three months, and had been subsequently, in Dr. Montgomery's opinion, over-fed—a circumstance tending materially to favour the development of the disease.

About five weeks after birth, it had been seen by Dr. Aldridge, who, from observing the tumefaction at the lower portion of the neck, warned the parents that the child would, most probably, be attacked with spasms. The child had experienced several attacks before that which proved fatal. Dr. Montgomery observed that he did not hold that enlargement of the thymus gland is always present in the laryngismus stridulus, but he believed that this condition was a frequent cause of the disease. (*Museum, Sir Patrick Dun's Hospital.*)

4. *Aneurism of the Aorta, compressing the Pulmonary Artery.* Professor Harrison exhibited the heart and aorta of a patient who had for some time laboured under violent action of the heart, with severe dyspnœa, relieved by turning upon his face; the action of the heart was not accompanied by any abnormal sound. The lining membrane of the aorta was of a bright red colour, thickened and friable, and numerous atheromatous and calcareous deposits were observed beneath it; a little above the origin of the aorta there was a small aneurismal tumour which compressed the pulmonary artery, so as to form a distinct projection into it; the walls of the pulmonary artery, in this

situation, were thinned and discoloured ; the right ventricle was greatly dilated ; attached to one of the aortic valves there was a remarkable tumour, about the size of a pea, which, connected by a pedicle, hung down into the cavity of the ventricle. (*Museum, Trinity College School.*)

5. *Ossification of the Heart.*—Mr. Smith exhibited three specimens of osseous deposition upon the surface and in the substance of the heart. The first preparation to which he drew the attention of the meeting was the heart of a man, æt. 39, who, for four years, had laboured under cough and dyspnœa. When admitted into hospital, he presented most of the symptoms of disease of the heart, but had neither pain in the cardiac region, palpitations, nor œdema of the lower extremities ; he died upon the third day after his admission. The pericardium was found united to the heart, and around the base of the latter there was a thick circle of bone, about an inch in breadth, and in some situations penetrating almost to the interior of the ventricles ; the walls of the auricles were hypertrophied ; there was also a deposition of bone in the costal pleura, and a cartilaginous induration in the investing membrane of the liver and spleen.

Mr. Smith next exhibited the heart of a woman, æt. 60, who died upon the second day after her admission into the hospital. Her chief complaint was dyspnœa ; in this case the deposit of bone was more extensive than in the preceding : it surrounded the base of the heart, and projected into the cavity of the ventricles, being in some places upwards of an inch in thickness, and containing in its interior large cells filled with a soft, cheesy, white matter ; the muscular substance of the heart was remarkably soft and fatty.

The third specimen which Mr. Smith presented to the meeting was taken from the body of an old man who died a few hours after his admission into the hospital. An immense plate of bone encircled the heart between the auricles and ventricles, extending in some places from the base almost to the apex of the organ ; it also sunk deep between the muscular fibres ; numerous calcareous deposits existed beneath the lining membrane of the aorta. In none of the specimens brought forward was there any bony deposition in the walls of the auricles. (*Museum, Richmond Hospital.*)

Twentieth Meeting, April 20, 1839.

Mr. COLLES in the Chair.

Chronic Endocarditis, with permanent Patency of the Aortic Valves.—Dr. Corrigan laid on the table the heart of a young man, who was attacked with acute rheumatism in 1822 ; he recovered from this under active treatment, but did not regain his usual state of health ; he became subject to palpitations, for the relief of which strict antiphlogistic treatment was enjoined and persisted in, until the extreme debility of the patient would no longer allow of it ; an opposite plan of treatment was then recommended, and under the use of stimulants and nutritious diet he improved rapidly. Being a member of the

medical profession he was elected in 1826 as superintendent of a dispensary in the country, and for many years was able to discharge his duties with great activity. In 1835 he applied to Dr. Corrigan for a certificate to enable him to effect an insurance on his life, and stated that his health was perfectly restored. Dr. Corrigan declined giving the certificate, having detected a bruit de soufflet under the sternum, accompanied by pulsation of the veins of the neck and fre-missement of the carotids. He continued to enjoy tolerably good health until a few months ago, when he was attacked with symptoms of gastric and hepatic derangement, followed by debility and complete prostration; the action of the heart became so feeble, as to be scarcely perceptible, when he raised himself into the erect posture. He died in syncope.

Upon opening the chest some adhesions, seemingly of recent formation, were found between the heart and pericardium; a vast number of warty excrescences existed upon the surface of the aortic valves, which were thickened, indurated, and puckered, so as to be incapable of closing the opening of the artery; the left auriculo-ventricular opening was slightly contracted; the heart had acquired an enormous size, owing to the inefficiency of the aortic valves to discharge their functions.

Dr. Corrigan remarked that this case, taken in connexion with others of a similar nature, led to the conclusion, that in permanent patency of the aortic valves hypertrophy of the heart is a provision of nature, to enable the organ to propel its contents, and support the additional weight thrown upon the ventricle, in consequence of the inadequacy of the valves to the performance of their functions: it was also obvious, that in such instances antiphlogistic treatment was injurious. For fourteen years preceding this patient's death the bruit de soufflet was never absent. (*Museum, Digges-street School.*)

2. *Inflammation of the Iliac, Femoral, Tibial, and Uterine Veins occurring after Delivery.*—Professor Harrison exhibited the recently removed parts in this case. All the venous branches of the thigh, leg, and foot, with the iliac vein, as high as the inferior cava, were filled with grumous blood, mixed with a substance like purulent matter; the lining membrane of the veins was rough, and had lost its natural polish; the spermatic veins were thickened as they approached the vena cava, and the uterine veins were remarkably indurated; there was a deposition of pus in the ankle joint, and the cartilage of the patella was abraded; there was also a slight purulent deposit in the body of the gastrocnemius muscle; this abscess communicated with one of the veins; the lymphatic vessels were healthy; the integuments and subcutaneous cellular tissue were hard and filled with serum.

The subject of this case was a young woman, who had been confined six weeks previous to her death; a few days after delivery she got symptoms of inflammation of the uterus, which were subdued by appropriate treatment; about a week before her death she was at-

tacked with symptoms of phlegmasia dolens, accompanied by a low fever, under which she sunk. (*Museum, Trinity College School.*)

3. *Rupture of the Liver.*—Professor Harrison exhibited the liver of a man who had fallen, a few hours before his death, from the top of a gasometer, about twenty feet in height; the lower jaw was broken. There were two large rents in the substance of the liver, one near the point of exit of the vena cava, the other and larger one on the under surface of the right lobe; there was a copious effusion of blood into the abdomen. The man suffered most intense pain until death. (*Museum, Trinity College School.*)

4. *Sacculated Condition of the Bladder.*—Dr. Colles exhibited the bladder of the late Dr. Percival, who for thirty years had been subject to urinary irritation.

Dr. Croker was aware that fifteen years ago this irritation was so troublesome, that when he had a call to make water, he was instantly obliged to go and empty his bladder. He did not, however, make any particular complaint of it until June last, when the calls to make water became exceedingly frequent and painful. At this period too he perceived, for the first time, that some blood escaped with the urine. This recurred frequently during the latter part of his life, but not to any great amount; and he used to observe to Dr. Colles, that after a discharge of blood in this way, he thought he was easier for some time, and had less distress in passing water. The blood always came away with the urine, and not before or afterwards, and was occasionally coagulated. Dr. Percival had a dislike to surgical operations, and would not permit the introduction of an instrument; he said he was content to bear his suffering, and would have it merely alleviated by some mild and simple remedy. The disease, however, gained ground, and latterly he was unable to make water except in the erect position. Hence, when he had a call, it was necessary to take him out of bed to put him standing up, and then by passing his finger under the perineum, and pressing forwards, he attempted to empty his bladder. It was a remarkable fact, that he was aware that he had two chambers in his bladder, and he mentioned the matter frequently to Dr. Colles. From the cast of the bladder which he presented, Dr. Colles said it was obvious that the bladder had in fact three chambers. The shape of the organ was very singular, and during life had contributed to throw a great deal of obscurity over the complaint. Whenever Dr. Percival permitted an external examination, a tumour could be generally felt towards the right side of the abdomen, rising towards the navel. This could not be always felt, but when it could, it was in general very tense and firm, and communicated to the finger the feel of a solid body; at other times it was more flaccid. Dr. Colles thought at one time that it was some tumour which had formed in the pelvis, and that it was the cause of the distress felt by Dr. Percival. In this, however, he was deceived, for the tumour was caused altogether by the bladder. He was fully aware that on various occasions the bladder was over-distended, and that no urine had been passed for a considerable time, but he was unwilling to urge the intro-

duction of an instrument, not from any dislike he had to catheterism, but he had frequently observed, that in old persons, who labour under no affection of the bladder except occasional distention, if an instrument be introduced, the patient will most probably require it again, and after a few introductions cannot dispense with it at all. The best plan which Dr. Colles knew was, to let the patient alone, and leave the matter to nature, by which the evil was in general remedied in a very short time. There was another circumstance which prevented Dr. Colles from using instruments. He had long entertained a suspicion that Dr. Percival was labouring under fungus of the bladder, and in such cases he always has a dread of employing the catheter. He recollected well the case of a gentleman, who came up to Dublin a few years since, labouring under fungus of the bladder. He went to different surgeons, and was sounded by each, and his bladder is now in the Museum of the College of Surgeons, with its entire cavity filled with a fungous mass. For these reasons Dr. Colles had never pressed the introduction of an instrument. He would now exhibit the bladder. The orifice of the urethra was surrounded by fungous excrescences, which, however, were not very remarkable in point of size. One of these was just at the orifice. The prostate gland was not particularly enlarged or indurated. The muscular coat of the bladder was fasciculated, or columnar, and there were several pouches formed in it from protrusion of the mucous membrane. On opening the bladder three or four clots of blood were found in it, but no calculi of any kind. The appearance of the bladder, divided into different chambers by the protrusions of the lining membrane, was extremely curious, and might have led to mistakes in using instruments. Dr. Colles said that gentlemen would perhaps have some idea of the torture Dr. Percival endured by recollecting, that while in his senses he never made water except while standing, a position which was most painful to him, owing to the state of the hip joints. It was melancholy to reflect on the agony this amiable man must have endured, particularly during the last months of his existence.

5. *Cysts of the Bladder.*—Mr. Adams said that the specimen he was about to present was not similar to that exhibited by Dr. Colles. although it might be said to belong to the same class of affections. It was a bladder with a single and solitary cyst in the upper fundus. The preparation shewed the cyst and that peculiar arrangement of the muscular fibres, to which the French anatomists have applied the term “columnar bladder.” This condition of the bladder may be produced by different kinds of obstruction, but more particularly by chronic strictures; in the case under consideration it had been produced by stricture. The subject was a man who had been three or four years in the House of Industry; he lay constantly on his back, and for some weeks before death never passed urine, except with the aid of instruments; but he never complained of any pain in the region of the bladder; the bladder seemed to have lost much of its contractile power, so that when an instrument was introduced he used to cough, and in this way expelled the urine *per saltem*. It was generally observed that the last drops voided had a foetid smell, and

were apparently blended with purulent matter ; he also had a constant desire to pass water after the instrument had been withdrawn.

Mr. Adams presented a drawing shewing the colour and villous appearance of the mucous membrane ; in some parts it was red and vascular, and in others it was of that peculiar slate colour so frequently observed in chronic inflammations of the mucous membrane.

Mr. Adams said he concurred in the views taken by Dr. Colles as to the abuse of instruments in cases of simple retention in old persons ; but in this instance the catheter had not been employed until the power of the bladder was wholly lost. There were several preparations of the description he had shewn in the Museum of the College of Surgeons, particularly one very remarkable one belonging to a patient who had been under the care of Mr. Kirby. One of the most interesting circumstances connected with the history of cysts in the bladder arose from their bearing on calculous formations. Calculi very often became entangled and lodged in them, so as to occasion great difficulty in the successful operation of lithotomy. This, however, had been disputed by Sharpe and Boyer, who seem to think that it is only an excuse for bad surgery. It could not, however, be denied that stones were sometimes entangled in them. Mr. Peile performed the operation for lithotomy, in a case in which the calculus was lodged in one of those cysts ; it retarded the operation considerably, but he succeeded in extracting it. Mr. Adams exhibited this calculus ; the part which lay in the cyst, and that which projected into the bladder, were separated by a distinct line of demarcation. Mr. Peile saw another case of the same kind, which did not terminate so favourably ; great difficulty was found in extracting the stone, and the patient died of peritonitis forty-eight hours after the operation. A case has been detailed by Sir Benjamin Brodie in his lectures, in which the stone was adherent to the cyst, so that he was obliged to introduce a blunt pointed bistoury and separate the connexion, before he could remove it. (*Museum, Richmond Hospital.*)

6. *Malformation of the Aortic Valves.*—Mr. Bigger said, that at a late meeting of the Society Dr. Russell had exhibited a specimen of malformation of the heart, in which the aortic opening was provided with two valves instead of three. In the specimen before him the same malformation was present. The case had been under the care of Dr. Crampton several years back in the Whitworth Hospital. The pulmonary artery in this case was normal. The principal symptoms observed by him were, a peculiar thrill in the pulse, a loud bruit de soufflet synchronous with the second sound of the heart, and occasional dyspnœa.

Successful Extirpation of the Parotid Gland, by Dr. Randolph, of Pennsylvania.—I will now briefly state the manner in which I propose performing the operation. I shall make an incision commencing at the zygoma, and continue it down over the surface of the tumour, until it reaches the edge of the sterno-mastoid muscle, and then a second incision, intersecting this at right angles. I shall next raise up the flaps, and dissect up the tumour from below. My object in

doing this, is to cut down for the external carotid artery, and endeavour to take it up just before it enters the gland, in the space between the edge of the stylo-hyoid muscle and the angle of the lower jaw. It is possible, however, as the tumour extends so low down, that it may be necessary to take up the common trunk of the carotid. In removing the tumour from its bed, between the mastoid process and the angle of the jaw, I shall use, as much as possible, the handle of the scalpel.

The patient was placed upon a table, his head inclined to the right side, and an incision made from just above the zygoma downward and forward over the whole extent of the tumour, to the edge of the sterno-mastoid muscle. A second incision was then made, which intersected this at right angles. Upon dissecting up the flaps, and raising the lower edge of the tumour, the facial artery was exposed, and it was judged advisable to secure it with a ligature. The adhesions were found to be so strong and close, that it was necessary to dissect the whole mass from its situation with the edge of the knife, as no separation could be effected with the handle of the scalpel. The tumour adhered so very firmly at its lower part to the angle of the jaw, and projected so far beyond it, that it was found impracticable to secure the external carotid artery at the place contemplated, and it was thought that the diseased mass could be more readily removed by separating it above, and then drawing it out. The dissection was accordingly continued from above downward, and, in doing this, it became necessary to secure the temporal and internal maxillary arteries, besides several others of smaller size, which bled with great freedom. The external jugular vein was also cut, and secured at both ends. In dividing the last bands which confined the tumour to its situation, the external carotid artery was cut, and poured out a large stream of blood; it was immediately secured with a ligature thrown round the artery by means of Dr. Physick's needle and forceps. A portion of the masseter muscle was so firmly attached to the diseased mass, as to render the removal of it necessary. The periosteum, also, covering a portion of the angle of the lower jaw, was absorbed, and the tumour adhered to the bone itself. The whole gland was finally separated quite unbroken, and, when removed, the bare styloid process and the stylo-maxillary ligament were distinctly seen.

In consequence of the division of the portio dura, the operation was necessarily followed by paralysis of the muscles on that side of the face. It should be stated, however, that paralysis existed previous to the operation; and it is somewhat singular that it was not augmented by the division of the nerve.

The wound was closed by a few stitches of the interrupted suture, and a light dressing applied. The operation lasted fifty-nine minutes.

Upon a careful examination of the parts, after the operation, it was unanimously declared by the surgeons and anatomists present, that *the whole of the parotid gland was completely removed.*—*From the Philadelphia Medical Examiner, Jan. 1839.*

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